

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Agathosma betulina*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	ZINC	Leaf		84.0	-0.01125863721237699	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	VINYL-GUAIACOL	Leaf Essent. Oil				--
0	TRANS-LINALOOL-OXIDE	Leaf Essent. Oil				--
0	TRANS-CARVEYL-ACETATE	Leaf Essent. Oil				--
1	TRANS-CARVEOL	Leaf Essent. Oil				--
0	TRANS-BETA-OCIMENE	Leaf Essent. Oil				--
0	TRANS-2-HYDROXYMENTHONE	Leaf Essent. Oil				--
0	TRANS-2-ACETOXY-PULEGONE	Leaf Essent. Oil				--
4	TIN	Leaf		11.0	-0.5530067419183887	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
31	THIAMIN	Leaf	7.0	19.0	2.2289490986880964	--
9	TERPINOLENE	Leaf Essent. Oil				--
23	TERPINEN-4-OL	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	SPATHULENOL	Leaf Essent. Oil				--
1	SODIUM	Leaf		2760.0	-0.15708991303999795	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	SILICON	Leaf		43.0	-0.28529562369022266	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
60	SELENIUM	Leaf		70.0	4.995871526729794	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
5	SABINENE	Leaf Essent. Oil				--
87	RUTIN	Essential Oil				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
87	RUTIN	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	RIBOFLAVIN	Leaf		1.1	-0.172705289047245	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	RESIN	Leaf		50000.0	-0.27511406022450346	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	QUERCETRIN-3,7-GLUCOSIDE	Essential Oil				--
0	QUERCETRIN-3,7-DIGLUCOSIDE	Essential Oil				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	QUERCETIN-3,7-DIGLUCOSIDE	Leaf				--
0	QUERCETIN-3,7-DI-O-BETA-D-GLUGOSIDE	Leaf				--
176	QUERCETIN	Plant				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	PULEGONE-EPOXIDE-A	Leaf Essent. Oil				--
28	PULEGONE	Leaf	1650.0	2750.0	-0.32792065886702804	--
0	PSEUDODIOSPHENOL	Leaf Essent. Oil				--
0	PROTEIN	Leaf		92000.0	-1.1955701649552826	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	POTASSIUM	Leaf		11700.0	-0.8232807551707827	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
7	PIPERITONE	Leaf Essent. Oil				--
3	PIPERITENONE	Leaf Essent. Oil				--
0	PINOL	Leaf Essent. Oil				--
4	PHOSPHORUS	Leaf		6780.0	0.33274881093925496	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
6	PHENETHYL-ALCOHOL	Leaf Essent. Oil				--
0	P-MENTHANE-8-THIOL-3-ONE	Leaf Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	P-MENTHANE-8-THIOL-1-ONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	P-MENTHAN-3-ON-8-THIOL	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	P-MENTHA-1,8-DIEN-10-OL	Leaf Essent. Oil				--
0	P-MENTHA-1,8-DIEN-10-AL	Leaf Essent. Oil				--
0	P-MENTHA-1,3,6-TRIENE	Leaf Essent. Oil				--
0	P-MENTH-8-EN-7-OL	Leaf Essent. Oil				--
0	P-MENTH-4(8)-EN-7-OL	Leaf Essent. Oil				--
0	P-MENTH-1-EN-9-YL-ACETATE	Leaf Essent. Oil				--
0	P-MENTH-1-EN-9-OL	Leaf Essent. Oil				--
0	P-MENTH-1-EN-9-AL	Leaf Essent. Oil				--
0	P-CYMOL	Essential Oil				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
16	P-CYMENE	Leaf Essent. Oil				--
0	P-CYMEN-8-OL	Leaf Essent. Oil				--
39	NIACIN	Leaf		42.0	-0.6750885614025129	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	NEROL-ACETONE	Leaf Essent. Oil				--
0	NEROL-ACETATE	Leaf Essent. Oil				--
10	NEROL	Leaf Essent. Oil				--
2	NEOMENTHOL	Leaf Essent. Oil				--
0	NEOISOPULEGOLE	Leaf Essent. Oil				--
1	MYRTENYL-ACETATE	Leaf Essent. Oil				--
2	MYRTENOL	Leaf Essent. Oil				--
0	MYRTANOL-ACETATE	Leaf Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	MYRTANOL	Leaf Essent. Oil				--
22	MYRCENE	Leaf Essent. Oil				--
22	MYRCENE	Leaf				--
3	MUCILAGE	Leaf				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
30	MENTHONE	Leaf Essent. Oil				--
0	MENTHOL-ACETATE	Leaf Essent. Oil				--
63	MENTHOL	Leaf Essent. Oil				--
5	MENTHOFURAN	Leaf Essent. Oil				--
14	MANGANESE	Leaf		675.0	0.6622735776500002	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
65	MAGNESIUM	Leaf		2210.0	-0.7397339063106452	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
60	LIMONENE	Leaf Essent. Oil				--
0	L-MENTHONE	Essential Oil				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	ISOPULEGONE	Leaf	450.0	900.0	0.7071067811865482	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	ISOPULEGONE	Leaf Essent. Oil				--
0	ISOPULEGOLE-ACETATE	Leaf Essent. Oil				--
0	ISOPULEGOLE	Leaf Essent. Oil				--
0	ISONEOMENTHOL-ACETATE	Leaf Essent. Oil				--
0	ISONEOMENTHOL	Leaf Essent. Oil				--
3	ISOMENTHONE	Leaf	5250.0	8750.0	2.193021261596281	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
3	ISOMENTHONE	Leaf Essent. Oil				--
6	IRON	Leaf		867.0	1.2770392926238854	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
31	HESPERIDIN	Leaf	10000.0	34000.0	0.7071067811865476	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	GUAIACOL	Leaf Essent. Oil				--
11	GAMMA-TERPINENE	Leaf Essent. Oil				--
11	GAMMA-TERPINENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GAMMA-MUUROLENE	Leaf Essent. Oil				--
6	FURFURAL	Leaf Essent. Oil				--
76	EUGENOL	Leaf Essent. Oil				--
12	ESTRAGOLE	Leaf Essent. Oil				--
0	EO	Leaf	10000.0	35000.0	2.0639741997608496	--
0	DODECA-CIS-CIS-3,6-DIENYL-ACETATE	Leaf Essent. Oil				--
0	DODECA-CIS-CIS-3,6-DIENOL	Leaf Essent. Oil				--
0	DL-PIPERITONEPOXIDE	Leaf	1425.0	2375.0		--
0	DL-PIPERITONE-EPOXIDE	Leaf	1425.0	2375.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	DIPENTENE	Essential Oil				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	DIOSPHENOLENE	Leaf Essent. Oil				--
0	DIOSPHENOL-METHYL-ETHER	Leaf Essent. Oil				--
4	DIOSPHENOL	Leaf	1800.0	3600.0	0.7071067811865478	--
4	DIOSPHENOL	Leaf Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
34	DIOSMIN	Leaf	200.0	500.0		--
13	DIOSMETIN	Leaf				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	DIHYDROCARVONE	Leaf Essent. Oil				--
0	DELTA-TERPINEOL	Leaf Essent. Oil				--
0	DEC-TRANS-4-ENOL	Leaf Essent. Oil				--
0	DEC-CIS-4-ENOL	Leaf Essent. Oil				--
19	D-LIMONENE	Leaf				Jim Duke's personal files.
0	CYMOPYROCATECHOL	Leaf Essent. Oil				--
2	COBALT	Leaf		87.0	0.21821961505531773	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
2	CITRONELLYL-ACETATE	Leaf Essent. Oil				--
15	CITRONELLOL	Leaf Essent. Oil				--
0	CIS-LINALOOL-OXIDE	Leaf Essent. Oil				--
0	CIS-CARVEYL-ACETATE	Leaf Essent. Oil				--
0	CIS-CARVEOL	Leaf Essent. Oil				--
0	CIS-BETA-OCIMENE	Leaf Essent. Oil				--
0	CIS-2-ACETOXY-PULEGONE	Leaf Essent. Oil				--
24	CHROMIUM	Leaf		29.0	1.832564064465539	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
19	CARVONE	Leaf Essent. Oil				--
9	CAMPHENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
9	CAMPHENE	Leaf Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Leaf		38800.0	1.391343499963003	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	CALAMENENE	Leaf Essent. Oil				--
0	BUCHU-CAMPHOR	Leaf Essent. Oil				--
35	BORNEOL	Leaf Essent. Oil				--
3	BETA-TERPINEOL	Leaf Essent. Oil				--
13	BETA-PINENE	Leaf Essent. Oil				--
0	BETA-PHELLANDROL	Leaf Essent. Oil				--
3	BETA-PHELLANDRENE	Leaf Essent. Oil				--
13	BETA-IONONE	Leaf Essent. Oil				--
5	BETA-ELEMENE	Leaf Essent. Oil				--
3	BETA-DAMASCENONE	Leaf Essent. Oil				--
0	BAROSMA-CAMPHOR	Leaf	1800.0	3000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ASH	Leaf		81000.0	-0.666900349430093	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
112	ASCORBIC-ACID	Leaf		4900.0	0.010737464231764774	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
3	AROMADENDRENE	Leaf Essent. Oil				--
5	ALUMINUM	Leaf		1360.0	0.6789856525717123	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
23	ALPHA-TERPINEOL	Leaf Essent. Oil				--
13	ALPHA-TERPINENE	Leaf Essent. Oil				--
13	ALPHA-TERPINENE	Leaf				--
28	ALPHA-PINENE	Leaf				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
28	ALPHA-PINENE	Leaf Essent. Oil				--
0	ALPHA-PHELLANDROL	Leaf Essent. Oil				--
11	ALPHA-PHELLANDRENE	Leaf Essent. Oil				--
0	ALPHA-MUUROLENE	Leaf Essent. Oil				--
0	8-MERCAPTO-P-MENTHA-3-ONE	Leaf				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	8-ACETYLTHIO-P-MENTHAN-3-ONE	Essential Oil				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	8-ACETYL-THIOPIPERITONE	Leaf Essent. Oil				--
0	8-ACETOXYMENTHONE	Leaf Essent. Oil				--
0	5-METHYL-FURFURAL	Leaf Essent. Oil				--
8	4-TERPINEOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	4-HYDROXY-ISOPULEGONE	Leaf Essent. Oil				--
0	4-HYDROXY-DIOSPHENOL	Leaf Essent. Oil				--
0	4-ACETOXY-ISOPULEGONE	Leaf Essent. Oil				--
0	4-ACETOXY-ISOMENTHONE	Leaf Essent. Oil				--
0	3-METHYL-CYCLOHEXANONE	Leaf Essent. Oil				--
0	2-EPI-P-MENTHANE-8-THIOL-1-ONE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	1-4-CINEOL	Leaf Essent. Oil				--
0	1,8-CINEOL	Leaf Essent. Oil				--
0	(-)-PULEGONE	Leaf	1650.0	2750.0	-0.7071067811865475	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
0	(-)-PULEGONE	Leaf Essent. Oil				--
0	(-)-ISOPULEGONE	Leaf Essent. Oil				--
0	(-)-ISOPULEGONE	Leaf	450.0	900.0		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.
0	(-)-ISOMENTHONE	Leaf Essent. Oil				--
0	(-)-ISOMENTHONE	Leaf	5250.0	8750.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	(+)-PULEGONE	Leaf	1500.0	3000.0	-0.15169172521226934	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	(+)-MENTHONE	Leaf Essent. Oil				--
0	(+)-MENTHONE	Leaf	1350.0	2250.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	(+)-LINALOOL	Leaf Essent. Oil				--
0	(+)-LIMONENE	Leaf Essent. Oil				--
0	(+)-LIMONENE	Leaf	1500.0	2500.0	0.707106781186547	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	(+)-ISOPULEGONE	Leaf Essent. Oil				--
0	(+)-8-HYDROXYMENTHONE	Leaf Essent. Oil				--
0	(+)-4-HYDROXYMENTHONE	Leaf Essent. Oil				--