

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Pinus sylvestris*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	DELTA-3-CARENE	Root Essent. Oil	400000.0	500000.0		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
28	ALPHA-PINENE	Root Essent. Oil	175000.0	200000.0	1.0055904952191068	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
13	BETA-PINENE	Root Essent. Oil	175000.0	200000.0	1.6637047098912103	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
8	DELTA-3-CARENE	Resin Essent. Oil	13000.0	360000.0		--
23	ALPHA-TERPINEOL	Leaf Essent. Oil	6500.0	167000.0	2.509529498910562	--
35	BORNEOL	Leaf Essent. Oil	6500.0	62000.0	0.16251562096096972	--
5	PINOSYLVIN	Wood	2500.0	8000.0		--
28	ALPHA-PINENE	Leaf	600.0	2500.0	-0.062233154531755666	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	BETA-PINENE	Leaf	200.0	1500.0	1.7833577159120335	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	BORNYL-ACETATE	Leaf	60.0	175.0	-0.314398718058706	--
53	BETA-CAROTENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
20	CITRONELLAL	Leaf Essent. Oil				--
28	ALPHA-PINENE	Plant				--
23	TERPINEN-4-OL	Leaf Essent. Oil				--
2	GAMMA-CAROTENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	LINARIN	Leaf				--
47	BETA-SITOSTEROL	Pollen Or Spore				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	(+)-GALLOCATECHIN	Leaf				--
1	RAFFINOSE	Leaf		8000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
176	QUERCETIN	Leaf				--
3	ABIETIC-ACID	Resin, Exudate, Sap		180000.0	-1.4142135623730954	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
26	PHENOL	Wood				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	P-HYDROXYACETOPHENONE	Leaf				--
3	CAPRIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	GAMMA-TERPINENE	Essential Oil				--
3	BETA-PHELLANDRENE	Leaf Essent. Oil		13000.0	0.1553903686246635	--
24	VANILLIC-ACID	Bark				--
112	ASCORBIC-ACID	Leaf		3000.0	-0.16555832480808047	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	CHLOROGENIC-ACID	Leaf				--
28	ALPHA-PINENE	Flower				--
23	TERPINEN-4-OL	Essential Oil				--
1	GALACTOSE	Leaf		30.0	-1.0	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	LIMONENE	Shoot				--
47	BETA-SITOSTEROL	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	(+)-CATECHIN	Bark				--
1	RAFFINOSE	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PRODELPHINIDIN	Leaf				--
67	1,8-CINEOLE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	NEOXANTHIN	Leaf				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		1600.0	-0.7549604300774599	--
2	CAMPESTEROL	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	GAMMA-TERPINENE	Leaf Essent. Oil		5000.0	-0.6592175679045217	--
2	BETA-MYRCENE	Resin, Exudate, Sap				--
9	VALERIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
31	CARYOPHYLLENE	Leaf Essent. Oil				--
28	ALPHA-PINENE	Essential Oil				--
17	TAXIFOLIN	Leaf				--
6	FURFURAL	Root				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
60	LIMONENE	Flower				--
7	ANISALDEHYDE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	(+)-CATECHIN	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	QUINIC-ACID	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PROCYANIDIN-C-2	Leaf				--
5	DEHYDROABIETIC-ACID	Resin, Exudate, Sap		70000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	(+)-CATECHIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
47	BETA-SITOSTEROL	Plant				--
4	NEOABIETIC-ACID	Resin, Exudate, Sap		180000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
16	P-CYMENE	Resin, Exudate, Sap				--
6	BUTYRIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	FENCHONE	Leaf Essent. Oil				--
5	BETA-ELEMENE	Essential Oil				--
11	TESTOSTERONE	Pollen Or Spore				--
41	CAMPHOR	Leaf Essent. Oil				--
28	ALPHA-PINENE	Leaf Essent. Oil		312000.0	0.9632438931581422	--
14	SULFUR	Leaf				--
8	FRUCTOSE	Leaf		25000.0	0.31537077862545454	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	LIMONENE	Essential Oil				--
1	ANDROSTENEDIONE	Pollen Or Spore				--
38	(-)-EPICATECHIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PROCYANIDIN-B-6	Leaf				--
3	DEHYDROABIETANE	Resin, Exudate, Sap				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	BETA-SELINENE	Wood				--
1	N-NONACOSANE	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
25	P-COUMARIC-ACID	Pollen Or Spore				--
12	ESTRAGOLE	Leaf Essent. Oil				--
20	BENZOIC-ACID	Leaf				--
18	TERPINEOL	Root				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
9	CAMPHENE	Leaf Essent. Oil		35000.0	0.3677628391862796	--
11	ALPHA-PHELLANDRENE	Essential Oil				--
12	STIGMASTEROL	Plant				--
8	FRUCTOSE	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	LIMONENE	Leaf Essent. Oil				--
13	ALPHA-TERPINENE	Root				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
60	LIMONENE	Resin, Exudate, Sap				--
43	PROTOCATECHUIC-ACID	Bark				--
2	PROCYANIDIN-B-3	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
19	D-LIMONENE	Leaf				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
13	BETA-PINENE	Twig				--
1	MALONIC-ACID	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	NEOABIETIC-ACID	Shoot				--
47	BETA-SITOSTEROL	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	ESTRAGOLE	Resin, Exudate, Sap		106670.0		--
36	ANETHOLE	Leaf Essent. Oil				--
9	CAMPHERE	Essential Oil				--
11	ALPHA-PHELLANDRENE	Leaf Essent. Oil				--
1	STACHYOSE	Plant				--
61	FERULIC-ACID	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ISOPIMARIC-ACID	Shoot				--
28	ALPHA-PINENE	Resin, Exudate, Sap				--
40	EPICATECHIN	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
2	PROPIONALDEHYDE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PROCYANIDIN-B-1	Leaf				--
10	CUMINALDEHYDE	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
13	BETA-PINENE	Flower				--
15	LUTEIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	MYRCENE	Twig				--
13	BETA-PINENE	Resin, Exudate, Sap				--
1	DELTA-CADINOL	Leaf Essent. Oil		9100.0		--
1	YLANGENE	Essential Oil				--
2	CAMPESTEROL	Plant				--
2	ALPHA-HUMULENE	Leaf Essent. Oil		4600.0	-0.5601171534351933	--
35	TANNIN	Bark		169000.0	0.2441891045370524	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	SABINENE	Essential Oil				--
5	EUGENOL-METHYL-ETHER	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
7	INDOLE-3-ACETIC-ACID	Sprout Seedling				--
31	CARYOPHYLLENE	Leaf				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
5	PINOSYLVIN	Wood				--
5	PINOSYLVIN	Shoot				--
1	COPAENE	Resin, Exudate, Sap				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	BETA-PINENE	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	L-LIMONENE	Leaf				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
22	MYRCENE	Flower				--
9	DELTA-CADINENE	Leaf Essent. Oil		22300.0		--
13	ALPHA-TERPINENE	Essential Oil				--
9	TERPINOLENE	Flower				--
102	CAFFEIC-ACID	Leaf				--
3	ALPHA-CADINOL	Leaf Essent. Oil		19000.0	-1.0	--
14	SUCROSE	Leaf		17000.0	-0.4419983985239393	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	SABINENE	Leaf Essent. Oil		4500.0	-0.5646050792348103	--
12	ESTRAGOLE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
7	INDOLE-3-ACETIC-ACID	Shoot				--
2	PECTOLINARIN	Leaf				--
53	CITRAL	Leaf				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
2	HUMULENE	Essential Oil				--
13	BETA-PINENE	Leaf Essent. Oil		65000.0	2.10395512758855	--
9	CAMPHENE	Resin, Exudate, Sap				--
22	MYRCENE	Essential Oil				--
9	DELTA-CADINENE	Essential Oil				--
13	ALPHA-TERPINENE	Leaf Essent. Oil		34500.0	2.2661395470708254	--
9	TERPINOLENE	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ISOPIMARIC-ACID	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
35	BORNEOL	Essential Oil				--
3	ALPHA-CADINOL	Leaf				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
14	SUCROSE	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	RHODOXANTHIN	Leaf				--
7	DIPENTENE	Resin, Exudate, Sap				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	ALPHA-PHELLANDRENE	Leaf				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
9	PINOCEMBRIN	Wood				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	PALMITIC-ACID	Pollen Or Spore				--
20	CHOLINE	Flower		3400.0	0.43193421279068084	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	GLUCOSAMINE	Shoot				--
3	BETA-PHELLANDRENE	Twig				--
35	BORNEOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	BETA-PHELLANDRENE	Resin, Exudate, Sap				--
5	DEHYDROABIETIC-ACID	Shoot				--
13	ALPHA-TERPINENE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	TERPINOLENE	Resin, Exudate, Sap				--
7	GLUCOSE	Leaf		22000.0	-0.42788248580564037	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	MYRCENE	Leaf Essent. Oil		34500.0	-0.23247237005406013	--
19	ACETYL-CHOLINE	Sprout Seedling				--
14	SHIKIMIC-ACID	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	QUERCIMERITRIN	Leaf				--
3	DIHYDROQUERCETIN	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	ALPHA-CAROTENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	PINITOL	Leaf		20000.0	1.0	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	P-METHOXY-CINNAMIC-ACID	Pollen Or Spore				--
10	CHAMAZULENE	Leaf				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
3	GINNOL	Pollen Or Spore				--
3	BETA-PHELLANDRENE	Flower				--
3	XYLOSE	Leaf		200.0		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
2	BETA-MYRCENE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	DEHYDROABIETANE	Wood				--
28	ALPHA-PINENE	Twig				--
9	TERPINOLENE	Leaf Essent. Oil		26000.0	1.7189798888776386	--
7	GLUCOSE	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	MALTOSE	Plant				--
3	BETA-TERPINEOL	Leaf Essent. Oil				--
3	ABIETIC-ACID	Shoot				--
5	SABINENE	Leaf				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Leaf				--
9	DELTA-CADINENE	Resin, Exudate, Sap				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	ADENINE	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	PINITOL	Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	P-HYDROXY-BENZOIC-ACID	Bark				--
1	CAPROIC-ACID	Leaf				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
11	GAMMA-TERPINENE	Resin, Exudate, Sap				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	BETA-PHELLANDRENE	Essential Oil				--
2	VIOLAXANTHIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.