

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in *Boswellia sacra*

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	ACETYL-11-KETO-BETA-BOSWELLIC-ACID	Resin, Exudate, Sap	--	166.7		Han, B. H., Kim, K. M., Park, J. H., Park, M. H., Kim, T. H., Han, Y. N. 1985. Studies on Triterpenoid Corticomimetics (III). Arch. Pharm. Res. 8 4: 213-220.
5	ACETYL-BETA-BOSWELLIC-ACID	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
5	ACETYL-BETA-BOSWELLIC-ACID	Resin, Exudate, Sap	--	4333		Han, B. H., Kim, K. M., Park, J. H., Park, M. H., Kim, T. H., Han, Y. N. 1985. Studies on Triterpenoid Corticomimetics (III). Arch. Pharm. Res. 8 4: 213-220.
10	ALPHA-BOSWELLIC-ACID	Resin, Exudate, Sap	--	106.7		Han, B. H., Kim, K. M., Park, J. H., Park, M. H., Kim, T. H., Han, Y. N. 1985. Studies on Triterpenoid Corticomimetics (III). Arch. Pharm. Res. 8 4: 213-220.
10	ALPHA-BOSWELLIC-ACID	Latex Exudate	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
2	ALPHA-HUMULENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	ALPHA-PHELLANDRENE	Essential Oil	--	24000	-0.1285055418541296	
11	ALPHA-PHELLANDRENE	Resin, Exudate, Sap	--	0.6		Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins <i>Boswellia carterii</i> and <i>Boswellia frereana</i> (Frankincense) of Somali Origin. J. Essent. Oil Res. 3 (3):185-186.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	ALPHA-PINENE	Essential Oil	--	410000	3.047713203652598	Wang, W., Zhu, Y. X., Liu, L. Z., Ling, D. K., Qin, X. L., Tian, J. G. 1993. Analysis of the Chemical Constituents of Essential Oil of <i>Boswellia carterii</i> Birdwood from Somali. <i>Yaowu Fenxi Zazhi</i> 13 3: 170-173.
28	ALPHA-PINENE	Resin, Exudate, Sap	1050	71600	-1.0059071766104755	
28	ALPHA-PINENE	Resin Essent. Oil	--	35000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.
3	ALPHA-SELINENE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.</i>
13	ALPHA-TERPINENE	Resin Essent. Oil	--	--		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.
23	ALPHA-TERPINEOL	Essential Oil	--	29000	0.5112270450486063	Wang, W., Zhu, Y. X., Liu, L. Z., Ling, D. K., Qin, X. L., Tian, J. G. 1993. Analysis of the Chemical Constituents of Essential Oil of <i>Boswellia carterii</i> Birdwood from Somali. <i>Yaowu Fenxi Zazhi</i> 13 3: 170-173.
23	ALPHA-TERPINEOL	Resin Essent. Oil	--	1000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.
7	ANISALDEHYDE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.</i>

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	AROMADENDRENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	BETA-BOSWELLIC-ACID	Resin, Exudate, Sap	--	426.7	-1.0000000000000002	
5	BETA-ELEMENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
3	BETA-PHELLANDRENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	BETA-PINENE	Resin Essent. Oil	--	4000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.
3	BETA-SELINENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
35	BORNEOL	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
4	CADINENE	Essential Oil	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
9	CAMPHENE	Resin Essent. Oil	--	0.7		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.
19	CARVONE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	CARYOPHYLLENE	Essential Oil	--	--		

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8	CARYOPHYLLENE-OXIDE	Resin, Exudate, Sap	--	32900		Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins <i>Boswellia carterii</i> and <i>Boswellia frereana</i> (Frankincense) of Somali Origin. <i>J. Essent. Oil Res.</i> 3 (3):185-186.
4	D-BORNEOL	Essential Oil	--	--		Guenther, E., <i>The Essential Oils</i> , 6 volumes, D. van Nostrand, New York, 1948-1952.
9	DELTA-CADINENE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
7	DIPENTENE	Essential Oil	3925	3925		Guenther, E., <i>The Essential Oils</i> , 6 volumes, D. van Nostrand, New York, 1948-1952.
1	ETHYL-LAURATE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
2	FARNESENE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
17	FARNESOL	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
1	GALACTOSE	Latex Exudate	--	--		Leung, A.Y., <i>Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics</i> , John Wiley & Sons, New York, 1980.
11	GAMMA-TERPINENE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
11	GAMMA-TERPINENE	Resin Essent. Oil	--	1000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.

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60	LIMONENE	Resin Essent. Oil	--	1.7		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.
60	LIMONENE	Resin, Exudate, Sap	--	78200		Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins Boswellia carterii and Boswellia frereana (Frankincense) of Somali Origin. J. Essent. Oil Res. 3 (3):185-186.
60	LIMONENE	Essential Oil	--	128000	-0.00031356999051470447	
53	LINALOOL	Resin Essent. Oil	--	20000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.
3	MUCILAGE	Resin, Exudate, Sap	120000	200000		
3	MUCILAGE	Latex Exudate	--	120000		
22	MYRCENE	Essential Oil	--	36000	0.02796719068873602	
22	MYRCENE	Resin Essent. Oil	--	2000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.
16	P-CYMENE	Essential Oil	3925	87000	0.08487859835357342	

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16	P-CYMENE	Resin, Exudate, Sap	--	35300	1	Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins <i>Boswellia carterii</i> and <i>Boswellia frereana</i> (Frankincense) of Somali Origin. <i>J. Essent. Oil Res.</i> 3 (3):185-186.
16	P-CYMENE	Resin Essent. Oil	--	0.5		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.
4	PELLANDRENE	Essential Oil	--	--		Guenther, E., <i>The Essential Oils</i> , 6 volumes, D. van Nostrand, New York, 1948-1952.
5	SABINENE	Resin, Exudate, Sap	--	94400		Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins <i>Boswellia carterii</i> and <i>Boswellia frereana</i> (Frankincense) of Somali Origin. <i>J. Essent. Oil Res.</i> 3 (3):185-186.
5	SABINENE	Resin Essent. Oil	--	3000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.
5	SABINENE	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
23	TERPINEN-4-OL	Essential Oil	--	--		Lawrence, B.M., <i>Essential Oils 1976-1977</i> , <i>Essential Oils 1978</i> , <i>Essential Oils 1979-1980</i> .
23	TERPINEN-4-OL	Resin Essent. Oil	--	2000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of <i>Olibanum</i> . <i>Plant Med.</i> 53 (4): 382-384.

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9	TERPINOLENE	Resin Essent. Oil	--	1000		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.
9	TERPINOLENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	THUJOPSENE	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	TRANS-PINOCARVEOL	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
5	VERBENONE	Essential Oil	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.