

## Dr. Duke's Phytochemical and Ethnobotanical Databases

### Chemicals found in Momordica charantia

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
5	ZEAXANTHIN	Pericarp				Jim Duke's personal files.
27	LINOLEIC-ACID	Fruit				Jim Duke's personal files.
2	CRYPTOXANTHIN	Pericarp				Jim Duke's personal files.
2	ALPHA-SPINASTEROL	Fruit				Jim Duke's personal files.
8	GLUTAMIC-ACID	Fruit				Jim Duke's personal files.
1	RUBIXANTHIN	Fruit				--
2	ZEATIN	Seed				Jim Duke's personal files.
27	LINOLEIC-ACID	Seed Oil				Jim Duke's personal files.
4	CHARANTIN	Seed				Jim Duke's personal files.
3	ALPHA-ELEOSTEARIC-ACID	Fruit				Jim Duke's personal files.
8	GENTISIC-ACID	Leaf				Jim Duke's personal files.
18	OLEIC-ACID	Fruit				Jim Duke's personal files.
20	VERBASCOSIDE	Shoot				Jim Duke's personal files.
3	CAPRIC-ACID	Seed Oil				Jim Duke's personal files.
3	ALANINE	Fruit				Jim Duke's personal files.
22	GABA	Fruit				--
1	RUBIXANTHIN	Pericarp				Jim Duke's personal files.
2	GAMMA-CAROTENE	Pericarp				Jim Duke's personal files.
11	NEROLIDOL	Seed Essent. Oil				Jim Duke's personal files.
22	GAMMA-AMINOBUTYRIC-ACID	Fruit				Jim Duke's personal files.
7	LAURIC-ACID	Seed Oil				Jim Duke's personal files.
47	BETA-SITOSTEROL	Tissue Culture				Jim Duke's personal files.
57	ROSMARINIC-ACID	Shoot				Jim Duke's personal files.
6	BETA-SITOSTEROL-D-GLUCOSIDE	Fruit				--
6	MYRISTIC-ACID	Seed Oil				Jim Duke's personal files.
22	GAMMA-AMINOBUTYRIC-ACID	Seed				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	LAURIC-ACID	Fruit				Jim Duke's personal files.
5	ZEAXANTHIN	Fruit				--
7	PHENYLALANINE	Fruit				Jim Duke's personal files.
47	BETA-SITOSTEROL	Fruit				--
6	MYRISTIC-ACID	Fruit				Jim Duke's personal files.
1	ETHYLENE	Fruit				Jim Duke's personal files.
53	BETA-CAROTENE	Pericarp				Jim Duke's personal files.
2	TARAXEROL	Seed Oil				Jim Duke's personal files.
2	PALMITOLEIC-ACID	Fruit				Jim Duke's personal files.
2	PIPECOLIC-ACID	Fruit				--
9	BETA-AMYRIN	Seed Oil				Jim Duke's personal files.
12	STIGMASTEROL	Tissue Culture				Jim Duke's personal files.
16	LYCOPENE	Pericarp				Jim Duke's personal files.
1	DELTA-CAROTENE	Pericarp				Jim Duke's personal files.
2	BETA-ALANINE	Fruit				Jim Duke's personal files.
15	LUTEIN	Fruit				--
12	STIGMASTEROL	Fruit				--
2	CRYPTOXANTHIN	Fruit				--
13	PALMITIC-ACID	Seed Oil				Jim Duke's personal files.
16	LYCOPENE	Seed				Jim Duke's personal files.
7	CYCLOARTENOL	Seed Oil				Jim Duke's personal files.
8	STEARIC-ACID	Fruit				Jim Duke's personal files.
13	PALMITIC-ACID	Fruit				Jim Duke's personal files.
15	LUTEIN	Pericarp				Jim Duke's personal files.
2	CUCURBITACIN-K	Seed				Jim Duke's personal files.
24	PECTIN	Fruit				--
2	ASPARAGINE	Seed				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	LANOSTEROL	Fruit				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
8	STEARIC-ACID	Seed Oil				Jim Duke's personal files.
16	P-CYMENE	Seed Essent. Oil				Jim Duke's personal files.
4	(-)-MENTHOL	Seed Essent. Oil				Jim Duke's personal files.
8	CUCURBITACIN-B	Seed				Jim Duke's personal files.
15	5-HYDROXYTRYPTAMINE	Fruit				--
10	SQUALENE	Seed Essent. Oil				Jim Duke's personal files.
1	CHOLESTEROL	Fruit				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
12	IODINE	Fruit		0.41	-0.28853494377145755	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	FLUORIDE	Fruit	0.2	0.5	-1.000378143329832	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
7	DIOSGENIN	Fruit		1.69	-0.999999999999999	Jim Duke's personal files.
9	OXALIC-ACID	Fruit		5.0	-0.30607332554046784	Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp.
31	THIAMIN	Leaf	1.3	8.0	-0.06349209547044472	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Fruit	0.4	9.0	0.8546749617807301	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Fruit		10.0	2.26174523862035	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
14	MANGANESE	Fruit		10.0	-0.33759879445260416	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
31	THIAMIN	Fruit	0.2	12.0	0.8534484420839309	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	DIOSGENIN	Tissue Culture		13.66	-0.7079113310670192	Jim Duke's personal files.
4	THREONINE	Seed		17.8	-1.8163214935569654	Jim Duke's personal files.
53	BETA-CAROTENE	Fruit		18.0	-0.11600695344068511	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
12	COPPER	Fruit		30.0	1.3371913013407486	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
15	RIBOFLAVIN	Leaf	4.6	31.0	-0.0325494690927309	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
12	GLYCINE	Seed		38.2	-1.5779725996145	Jim Duke's personal files.
3	ISOLEUCINE	Seed		38.4	-1.3338385078210488	Jim Duke's personal files.
1	SERINE	Seed		39.9	-2.018924594647529	Jim Duke's personal files.
5	CITRULLINE	Fruit		41.2	-0.6424999385015843	Jim Duke's personal files.
2	LEUCINE	Seed		41.6	-1.6310343336304725	Jim Duke's personal files.
7	HISTIDINE	Seed		43.6	-1.6164825787870483	Jim Duke's personal files.
39	NIACIN	Fruit	3.0	50.0	-0.14301520764261824	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	ORNITHINE	Seed		63.2		Jim Duke's personal files.
3	ASPARTIC-ACID	Seed		90.0	-1.9973581997884697	Jim Duke's personal files.
39	NIACIN	Leaf	15.0	103.0	0.06689038440862302	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	LYSINE	Seed		149.0	-1.618638546276612	Jim Duke's personal files.
3	ALANINE	Seed		157.7	-2.125486049794296	Jim Duke's personal files.
8	GLUTAMIC-ACID	Seed		212.0	-1.7509729163492929	Jim Duke's personal files.
16	LYCOPENE	Fruit		231.0	-0.286475816300021	Jim Duke's personal files.
14	ARGININE	Seed		323.0	-1.0296877540066676	Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	BETA-CAROTENE	Leaf	51.0	330.0	0.299193200126749	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	SODIUM	Fruit	20.0	333.0	-0.15237277044187197	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Leaf	50.0	357.0	-0.015676844638709195	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	TYROSINE	Seed		517.0	-1.673500116845535	Jim Duke's personal files.
6	IRON	Fruit	2.0	560.0	1.6938808861430978	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	BETA-MOMORCHARIN	Seed		800.0		Jim Duke's personal files.
5	ALPHA-MOMORCHARIN	Seed		1000.0		Jim Duke's personal files.
1	SODIUM	Leaf	190.0	1234.0	-0.4281180118553505	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	CHARANTIN	Fruit	350.0	1500.0		Jim Duke's personal files.
65	MAGNESIUM	Fruit	195.0	3800.0	0.7734288840240365	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
28	CALCIUM	Fruit	130.0	4333.0	0.11000660647619885	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Fruit	320.0	8333.0	1.5542381214811356	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
19	INULIN	Fruit		10000.0		Jim Duke's personal files.
112	ASCORBIC-ACID	Leaf	1700.0	12412.0	0.7077553417408794	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Leaf	2640.0	18701.0	0.018026155323724542	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
19	INULIN	Tissue Culture		19000.0		Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	POTASSIUM	Leaf	5100.0	33117.0	0.12244608377334268	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Leaf	540.0	33467.0	5.2428092659958	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Fruit	570.0	36447.0	1.9816758485339367	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
27	LINOLEIC-ACID	Seed	770.0	38192.0	-0.5906007679972597	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	POTASSIUM	Fruit	2700.0	45000.0	2.3961747940748954	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
18	OLEIC-ACID	Seed	1580.0	77376.0	-0.34302406034411387	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
27	LINOLEIC-ACID	Cotyledon	72200.0	103900.0	-1.5560256104086498	Jim Duke's personal files.
15	FIBER	Leaf	5000.0	104000.0	-0.7114852663831885	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	STEARIC-ACID	Seed	29800.0	147800.0	2.641368075087524	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	OLEIC-ACID	Cotyledon		155800.0	-1.4748334919931014	Jim Duke's personal files.
8	STEARIC-ACID	Cotyledon	121200.0	241800.0	1.7319277911844766	Jim Duke's personal files.
15	FIBER	Fruit	10000.0	257800.0	1.0957982871246397	--
13	PALMITIC-ACID	Cotyledon	27100.0	519500.0	0.5807660362186364	Jim Duke's personal files.