

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in *Carica papaya***

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	4-TERPINEOL	Fruit	--	--		
15	5-HYDROXYTRYPTAMINE	Plant	--	--		Jim Duke's personal files.
3	ALANINE	Fruit	140	1253	-0.9646875161658541	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Fruit	250	2238	-0.1389637310912248	USDA's Ag Handbook 8 and sequelae)
11	ALPHA-PHELLANDRENE	Fruit	--	--		
13	ALPHA-TERPINENE	Fruit	--	--		
32	ALPHA-TOCOPHEROL	Leaf	--	--		Jim Duke's personal files.
1	ANTHERAXANTHIN	Fruit	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
14	ARGININE	Fruit	100	895	-0.9108448929638525	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Fruit	640	4741	0.010292117056281466	
112	ASCORBIC-ACID	Leaf	1400	6222	0.13340221850054146	
3	ASPARTIC-ACID	Fruit	490	4387	-0.7582452723944939	USDA's Ag Handbook 8 and sequelae)
1	BEHENIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	BEHENIC-ACID	Seed Oil	--	16000	0.29658976365227746	Jim Duke's personal files.
24	BENZALDEHYDE	Fruit	--	300	-0.06377099858893052	
9	BENZYL-ALCOHOL	Fruit	--	--	-0.7177394965097122	Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
20	BENZYL-ISOTHIOCYANATE	Fruit	0.001	291		
20	BENZYL-ISOTHIOCYANATE	Seed	2000	5000	-1	Jim Duke's personal files.
53	BETA-CAROTENE	Fruit	--	--		
53	BETA-CAROTENE	Leaf	116	514	1.1005033579469683	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Seed Oil	--	--		Jim Duke's personal files.
53	BETA-CAROTENE	Pericarp	--	--		Jim Duke's personal files.
3	BETA-PHELLANDRENE	Fruit	--	--		
47	BETA-SITOSTEROL	Leaf	--	--		Jim Duke's personal files.
47	BETA-SITOSTEROL	Seed Oil	--	--		Jim Duke's personal files.
47	BETA-SITOSTEROL	Flower	--	--		Jim Duke's personal files.
47	BETA-SITOSTEROL	Fruit	--	--		Jim Duke's personal files.
47	BETA-SITOSTEROL	Seed	--	--		Jim Duke's personal files.
4	BORON	Fruit	5	15	-0.5018987122156774	
2	BUTYL-ALCOHOL	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
102	CAFFEIC-ACID	Leaf	--	--		Jim Duke's personal files.
28	CALCIUM	Fruit	159	1180	-0.6175808503755033	
28	CALCIUM	Leaf	3440	23800	0.36642881915355097	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Seed Oil	--	--		Jim Duke's personal files.
1	CAPROIC-ACID	Fruit	--	--		Jim Duke's personal files.
17	CARPAIN	Bark	--	--		
17	CARPAIN	Leaf	150	4000		
17	CARPAIN	Root	--	--		
17	CARPAIN	Seed	--	--		
17	CARPAIN	Plant	--	--		Jim Duke's personal files.
17	CARPAIN	Fruit	--	200		Jim Duke's personal files.
4	CARPOSIDE	Leaf	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
31	CARYOPHYLLENE	Fruit	--	--		
1	CHOLESTEROL	Seed Oil	--	--		Jim Duke's personal files.
20	CHOLINE	Leaf	--	200	-0.47726562792110133	Jim Duke's personal files.
24	CHROMIUM	Fruit	0.1	1	-0.3671750908546996	
4	CHYMOPAPAIN	Latex Exudate	--	--		
23	CITRIC-ACID	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	COBALT	Fruit	2	14	1.1597144135765933	
12	COPPER	Fruit	0.1	5	-0.6085448044834153	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CRYPTOXANTHIN	Pericarp	--	--		Jim Duke's personal files.
7	CYCLOARTENOL	Seed Oil	--	--		Jim Duke's personal files.
1	EPSILON-CAROTENE	Fruit	--	--		
1	EPSILON-CAROTENE	Pericarp	--	--		Jim Duke's personal files.
24	ETHANOL	Fruit	--	--		Jim Duke's personal files.
6	ETHYL-ACETATE	Fruit	--	--		
1	ETHYL-BENZOATE	Fruit	--	--		
1	ETHYL-BUTYRATE	Fruit	--	--		
15	FIBER	Fruit	5000	75538	-0.46690178925800363	
15	FIBER	Leaf	18000	145000	-0.20447325046745057	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Seed	170000	170000	0.27811243148773734	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	FRUCTOSE	Fruit	--	--		Jim Duke's personal files.
8	FRUCTOSE	Bark	--	--		Jim Duke's personal files.
8	FRUCTOSE	Leaf	--	--		Jim Duke's personal files.
7	FUMARIC-ACID	Fruit	3150	23333	1.4090927316950586	
1	GALACTOSE	Bark	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	GAMMA-CAROTENE	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	GAMMA-TERPINENE	Fruit	--	--		
8	GENTISIC-ACID	Leaf	--	--		Jim Duke's personal files.
2	GERANYL-ACETONE	Fruit	--	--		
2	GERMACRENE-D	Fruit	--	--		
7	GLUCOSE	Fruit	--	--		Jim Duke's personal files.
7	GLUCOSE	Bark	--	--		Jim Duke's personal files.
7	GLUCOSE	Leaf	--	--		Jim Duke's personal files.
8	GLUTAMIC-ACID	Fruit	--	--		USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Fruit	180	1611	-0.7711938117552699	USDA's Ag Handbook 8 and sequelae)
5	HEXANAL	Fruit	--	--		
1	HEXYL-ACETATE	Fruit	--	--		Jim Duke's personal files.
7	HISTIDINE	Fruit	50	448	-0.8866430953186365	USDA's Ag Handbook 8 and sequelae)
6	IRON	Fruit	0.4	3	-0.5155879913303996	
6	IRON	Leaf	8	38	-0.824258114808842	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	ISOAMYL-ACETATE	Fruit	--	--		
3	ISOBUTYL-ACETATE	Fruit	--	--		Jim Duke's personal files.
2	ISOBUTYL-ALCOHOL	Fruit	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ISOLEUCINE	Fruit	80	716	-0.8775495343550369	USDA's Ag Handbook 8 and sequelae)
2	ISOPROPYL-ALCOHOL	Fruit	--	--		Jim Duke's personal files.
7	LAURIC-ACID	Fruit	10	90	-0.4444146432555388	
7	LAURIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	LAURIC-ACID	Seed Oil	--	4000	-0.7012763853261376	Jim Duke's personal files.
7	LAURIC-ACID	Leaf	--	--		Jim Duke's personal files.
7	LAURIC-ACID	Flower	--	--		Jim Duke's personal files.
2	LEUCINE	Fruit	160	1432	-0.7800180381461054	USDA's Ag Handbook 8 and sequelae)
1	LIGNOCERIC-ACID	Seed Oil	--	--		Jim Duke's personal files.
53	LINALOOL	Fruit	--	--	-0.5857755812776223	
27	LINOLEIC-ACID	Fruit	60	537	-0.347823614663473	
27	LINOLEIC-ACID	Seed	5389	5389	-0.871660128625913	
27	LINOLEIC-ACID	Seed Oil	--	4000	-1.5223259403119926	Jim Duke's personal files.
27	LINOLEIC-ACID	Leaf	--	--		Jim Duke's personal files.
27	LINOLEIC-ACID	Flower	--	--		Jim Duke's personal files.
16	LYCOPENE	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
16	LYCOPENE	Pericarp	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	LYSINE	Fruit	250	2238	-0.48599361292492554	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Fruit	110	815	-0.608799543813469	
15	MALIC-ACID	Fruit	3150	23333	0.567329421438877	
15	MALIC-ACID	Latex Exudate	4400	4400		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	MANGANESE	Fruit	0.1	1	-0.3969436204051225	
2	METHANOL	Fruit	--	--		Jim Duke's personal files.
15	METHIONINE	Fruit	10	179	-0.9599249017247726	
3	METHYL-ACETATE	Fruit	--	--		
21	METHYL-SALICYLATE	Fruit	--	--		
13	MUFA	Fruit	380	3402	-0.2044785517519125	USDA's Ag Handbook 8 and sequelae)
2	MYOSMINE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	MYOSMINE	Leaf	--	1.4		Jim Duke's personal files.
22	MYRCENE	Fruit	--	--		
6	MYRISTIC-ACID	Fruit	70	627	-0.23956447622829535	
6	MYRISTIC-ACID	Seed	--	--		
6	MYRISTIC-ACID	Seed Oil	--	4000	-0.5619514869490164	Jim Duke's personal files.
6	MYRISTIC-ACID	Leaf	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MYRISTIC-ACID	Flower	--	--		Jim Duke's personal files.
1	MYRISTOLEIC-ACID	Flower	--	--		Jim Duke's personal files.
1	MYRISTOLEIC-ACID	Fruit	--	--		Jim Duke's personal files.
3	N-ACETYL-HEXOSAMIDASE	Latex Exudate	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	N-HENTRIACONTANE	Seed Oil	--	--		Jim Duke's personal files.
2	N-HEXACOSANE	Seed Oil	--	--		Jim Duke's personal files.
1	N-NONACOSANE	Seed Oil	--	--		Jim Duke's personal files.
2	NEOXANTHIN	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
39	NIACIN	Fruit	4	30	-0.41038049882634875	
39	NIACIN	Leaf	21	93	-0.05474550834730091	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
21	NICOTINE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
21	NICOTINE	Leaf	--	102.8	-0.7499661778472884	Jim Duke's personal files.
5	OCTANOIC-ACID	Fruit	--	--		Jim Duke's personal files.
18	OLEIC-ACID	Fruit	180	1611	-0.4683286447061981	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Seed	193545	202400	0.6847466271086402	



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
18	OLEIC-ACID	Seed Oil	743000	755000	2.266462351347825	Jim Duke's personal files.
18	OLEIC-ACID	Leaf	--	--		Jim Duke's personal files.
18	OLEIC-ACID	Flower	--	--		Jim Duke's personal files.
13	PALMITIC-ACID	Fruit	320	2865	-0.320933619156033	
13	PALMITIC-ACID	Seed	28791	30107	-0.07839595078720965	
13	PALMITIC-ACID	Seed Oil	162000	190000	0.05419140224469152	Jim Duke's personal files.
13	PALMITIC-ACID	Leaf	--	--		Jim Duke's personal files.
13	PALMITIC-ACID	Flower	--	--		Jim Duke's personal files.
2	PALMITOLEIC-ACID	Fruit	200	1790	-0.01827100523355692	
2	PALMITOLEIC-ACID	Flower	--	--		Jim Duke's personal files.
11	PANTOTHENIC-ACID	Fruit	2	19	0.05712424299404392	USDA's Ag Handbook 8 and sequelae)
25	PAPAIN	Fruit	--	--		
25	PAPAIN	Latex Exudate	51000	135000		
24	PECTIN	Fruit	--	--		Jim Duke's personal files.
7	PHENYLALANINE	Fruit	90	806	-0.8738816258110772	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Fruit	170	1260	-0.5941134018186989	
4	PHOSPHORUS	Leaf	1420	6311	0.24645891872875847	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	POTASSIUM	Fruit	690	5110	-1.1330381120971724	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	POTASSIUM	Leaf	6520	28978	-0.060322902844285126	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	PRUNASIN	Leaf	--	--		Jim Duke's personal files.
4	PUFA	Fruit	310	2775	-0.6408686079046128	USDA's Ag Handbook 8 and sequelae)
3	PYRIDINE	Fruit	--	--		Jim Duke's personal files.
15	RIBOFLAVIN	Fruit	0.4	3	-0.4303249009534089	
15	RIBOFLAVIN	Leaf	5	21	-0.07942432526480918	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
7	SALICYLATES	Fruit	0.8	8	-0.31380232713014544	
60	SELENIUM	Fruit	0.1	1	-0.13821084305127834	
1	SERINE	Fruit	150	1343	-0.8120190151666494	USDA's Ag Handbook 8 and sequelae)
4	SILICON	Fruit	1.2	10	-0.5759531928031193	
1	SODIUM	Fruit	60	444	-0.14184676510350971	
1	SODIUM	Leaf	160	711	-0.521006410073194	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
10	SQUALENE	Seed Oil	--	--		Jim Duke's personal files.
8	STEARIC-ACID	Fruit	20	179	-0.2673505228936131	
8	STEARIC-ACID	Seed	12650	13282	-0.2772157419739704	
8	STEARIC-ACID	Seed Oil	--	50000	-0.5312228391740013	Jim Duke's personal files.
8	STEARIC-ACID	Leaf	--	--		Jim Duke's personal files.
8	STEARIC-ACID	Flower	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	STIGMASTEROL	Seed Oil	--	--		Jim Duke's personal files.
3	STYRENE	Fruit	--	--		Jim Duke's personal files.
14	SUCROSE	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	SUCROSE	Bark	--	--		Jim Duke's personal files.
14	SUCROSE	Leaf	--	--		Jim Duke's personal files.
14	SULFUR	Fruit	300	900	-0.35813249886374227	
6	TARTARIC-ACID	Fruit	3150	23333	-0.24237898104354536	
9	TERPINOLENE	Fruit	--	--		
31	THIAMIN	Fruit	0.2	2.6	-0.34980129918184183	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Leaf	1	4	-0.8971070751644596	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	THREONINE	Fruit	110	985	-0.8449765955821991	USDA's Ag Handbook 8 and sequelae)
1	TOLUENE	Fruit	--	0.005	-0.707116857507301	Jim Duke's personal files.
29	TRYPTOPHAN	Fruit	40	716	-0.18868896426915321	
8	TYROSINE	Fruit	50	448	-0.8166172460051626	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Fruit	100	895	-0.7341136385803058	USDA's Ag Handbook 8 and sequelae)
2	VIOLAXANTHIN	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

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2	VIOLAXANTHIN	Leaf	--	--		Jim Duke's personal files.
10	XYLITOL	Bark	--	--		Jim Duke's personal files.
5	ZEAXANTHIN	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	ZINC	Fruit	--	--		