

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Musa x paradisiaca*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	(-)-SALSOLINOL	Fruit				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	(24R)-4,14,24-TRIMETHYL-5ALPHA-CHOLESTA-8,25(27)-DIEN-3-BETA-OL	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	(24R)-4-ALPHA-14-ALPHA-24-TRIMETHYL-...	Plant				--
0	(24R)-4ALPHA,14ALPHA,24-TRIMETHYL-5ALPHA-CHOLESTA-8,25(27)-3BETA-OL	Plant				--
0	(24S)-14ALPHA,24-DIMETHYL-9BETA,19-CYCLO-5ALPHA-CHOLEST-25EN-3BETA-OL	Plant				--
0	(24S)-24-METHYL-25-DEHYDROCHOLESTEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	2,4-METHYLENE-CHOLESTEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	24-METHYL-CHOLESTEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	24-METHYLENE-31-NOR-5ALPHA-CYCLOARTAN-3-ONE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	24-METHYLENE-31-NOR-5ALPHA-LANOST-9(11)-3BETA-OL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	24-METHYLENE-CYCLOARTENOL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	24-METHYLENE-CYCLOARTENOL	Plant				Stitt, Paul. Why George should eat broccoli.
0	24-METHYLENE-CYCLOARTENOL-PALMITATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	24-METHYLENEPOLLINASTANOL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	31-NOR-24-BETA-METHYL-9,19-CYCLOLANOST...	Plant				--
0	31-NOR-24BETA-METHYL-9,19-CYCLOLANOST-25-EN-3ALPHA-OL	Flower				--
0	31-NORCYCLOLAUDENOL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	31-NORCYCLOLAUDENONE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	5-HYDROXY-L-TRYPTOPHAN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
15	5-HYDROXYTRYPTAMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
15	5-HYDROXYTRYPTAMINE	Plant				Stitt, Paul. Why George should eat broccoli.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	6G-BETA-D-FRUCTOFURANOSYLSUCROSE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
16	ACETIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
3	ALANINE	Fruit	510.0	1469.0	-0.8797934426307861	USDA's Ag Handbook 8 and sequelae)
7	ALPHA-CAROTENE	Fruit	0.12	0.36	-0.49818171573066583	--
0	ALPHA-KETO-GLUTARIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
15	ALPHA-LINOLENIC-ACID	Fruit	330.0	1282.0	-0.5718991540253398	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Plant				--
32	ALPHA-TOCOPHEROL	Hull Husk		30.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	ALUMINUM	Fruit	1.0	35.0	-0.21333915200024364	ACTA AGRIC SCAND SUPPL 22: 1980
1	AMYLASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	AMYLOSE	Fruit		205000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ANHYDROGALACTURONIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ARABINOSE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
14	ARGININE	Fruit	1080.0	3111.0	-0.31975469718968097	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Fruit	0.04	0.35	-0.08838885506053196	ACTA AGRIC SCAND SUPPL 22: 1980
112	ASCORBIC-ACID	Fruit	161.0	596.0	-0.24743151780698985	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Hull Husk		1380.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASCORBIC-ACID-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Sprout Seedling		143000.0	2.083258616176623	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Pith		6000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Leaf		88000.0	-0.5435689430543219	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Hull Husk		121000.0	1.409427715949451	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Flower		12000.0	-1.2890432035234691	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Shoot	11710.0	158300.0	1.290397476639	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	ASH	Fruit	10090.0	38333.0	-0.474681404068941	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ASPARTIC-ACID	Fruit	1080.0	3110.0	-0.9260124834383072	USDA's Ag Handbook 8 and sequelae)
53	BETA-CAROTENE	Hull Husk	0.6	16.6	0.29354442394364944	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
53	BETA-CAROTENE	Fruit	6.0	21.0	-0.11020800749235965	USDA's Ag Handbook 8 and sequelae)
0	BETA-PHENYLETHYLAMINE	Fruit				--
47	BETA-SITOSTEROL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
47	BETA-SITOSTEROL	Leaf				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
4	BIOTIN	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	BORIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
4	BORON	Fruit	2.8	8.5	-0.6327683301122562	--
0	BROMINE	Fruit	0.3	27.0	0.4624187435873433	ACTA AGRIC SCAND SUPPL 22: 1980
6	BUTYRIC-ACID	Plant				--
6	BUTYRIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	CADMIUM	Fruit		0.002	-0.6377471299475531	ACTA AGRIC SCAND SUPPL 22: 1980
28	CALCIUM	Fruit	20.0	95.0	-0.8679558553498441	--
28	CALCIUM	Sprout Seedling		11600.0	0.6890857085449396	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Pith		100.0	-0.7864626628310915	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
28	CALCIUM	Leaf		7500.0	-0.747311800659387	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Flower		300.0	-1.5134341931691262	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CALCIUM-PECTATE	Fruit		42000.0	1.3832669886314268	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	CAMPESTEROL	Fruit	20.0	80.0	0.019982522935305048	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
3	CAPRIC-ACID	Plant				--
3	CAPRIC-ACID	Fruit	10.0	39.0	-0.7310596697165437	USDA's Ag Handbook 8 and sequelae)
0	CAPROLIC-ACID	Plant				--
5	CAPRYLIC-ACID	Plant				--
0	CARBOHYDRATES	Leaf		695000.0	0.6612625958870741	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Hull Husk		631000.0	-1.406495033105663	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CARBOHYDRATES	Flower		50000.0	-3.328560233480333	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CARBOHYDRATES	Shoot	39000.0	527000.0	-0.3718590353069113	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	CARBOHYDRATES	Fruit	318000.0	918432.0	0.7248572329993801	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CARBOHYDRATES	Sprout Seedling		810000.0	1.2818093790614047	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Pith		97000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CARPYLIC-ACID	Plant				--
1	CATALASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	CELLULOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	CHLORINE	Fruit		1250.0	0.2000805473054771	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
21	CHLOROPHYLL	Hull Husk	52.0	103.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	CHOLESTEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
24	CHROMIUM	Fruit	0.02	0.15	-0.48656449542659064	ACTA AGRIC SCAND SUPPL 22: 1980
23	CITRIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
2	COBALT	Fruit		0.005	-0.5345099214648011	ACTA AGRIC SCAND SUPPL 22: 1980
12	COPPER	Fruit	0.76	6.0	-0.5307153602504487	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	CYANIDIN	Inflorescence				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
7	CYCLOARTENOL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
3	CYCLOEUCALENOL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CYCLOEUCALENONE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	CYCLOLAUDENOL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
2	CYSTINE	Fruit	200.0	576.0	-0.47492868422969975	USDA's Ag Handbook 8 and sequelae)
0	DEHYDROASCORBIC-ACID	Fruit	10.0	51.0	-0.7082083482071408	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	DELPHINIDIN	Plant				Stitt, Paul. Why George should eat broccoli.
9	DELPHINIDIN	Inflorescence				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
2	DIMETHYL-AMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.

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1	DOPA	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
20	DOPAMINE	Hull Husk		700.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
20	DOPAMINE	Fruit				--
1	EMENOLONE	Plant				--
2	ERUCIC-ACID	Plant				--
0	ETHYL-AMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	FAT	Flower		2000.0	-0.8785127344323188	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Sprout Seedling		23000.0	-0.5906796110057675	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Pith		1000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Leaf		118000.0	1.2262524681861342	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Shoot	8480.0	115000.0	1.2942546135443802	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	FAT	Hull Husk		87000.0	1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Fruit	2970.0	12758.0	-0.5438075120179411	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	FIBER	Sprout Seedling		205000.0	1.3307439342107996	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Pith		8000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	FIBER	Leaf		240000.0	0.9703106888495033	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Hull Husk		100000.0	1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	FIBER	Flower		19000.0	-1.3768579605614941	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	FIBER	Shoot	13210.0	178600.0	0.00480836714011626	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
15	FIBER	Fruit	4250.0	16560.0	-1.1806583162167987	USDA's Ag Handbook 8 and sequelae)
0	FLUORINE	Fruit	0.1	0.4	-0.9421069025375646	ACTA AGRIC SCAND SUPPL 22: 1980
15	FOLACIN	Fruit	0.2	0.7	-0.5504340756407867	USDA's Ag Handbook 8 and sequelae)
13	FORMIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
8	FRUCTOSE	Fruit		35000.0	-0.3724202434572889	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
22	GABA	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	GADOLEIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	GALACTOSE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	GAMMA-GUANIDINO-N-BUTYRIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	GAMMA-GUANIDINOBUTYRIC-ACID	Fruit				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
7	GLUCOSE	Fruit		45000.0	-0.417500983291459	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
8	GLUTAMIC-ACID	Fruit	1160.0	3341.0	-0.7701729315327166	USDA's Ag Handbook 8 and sequelae)
0	GLUTARIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
3	GLYCERIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
12	GLYCINE	Fruit	450.0	1296.0	-0.893047785271757	USDA's Ag Handbook 8 and sequelae)
4	GLYCOLIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	GLYOXALIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	HEMICELLULOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

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18	HISTAMINE	Fruit				--
7	HISTIDINE	Fruit	640.0	1843.0	0.09141919781622437	USDA's Ag Handbook 8 and sequelae)
7	INDOLE-3-ACETIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
8	INOSITOL	Fruit		340.0	-1.0	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	INVERTASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	IRENOLONE	Plant				--
6	IRON	Fruit	4.0	17.0	-0.4600537646075469	--
6	IRON	Pith		11.0	-0.8102035482512379	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	IRON	Flower		1.0	-1.096050995011666	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ISOAMYL-AMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	ISOBUTYL-AMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	ISOFUCISTEROL	Fruit				--

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0	ISOFUCOSTEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
3	ISOLEUCINE	Fruit	360.0	1037.0	-0.7811387840532968	USDA's Ag Handbook 8 and sequelae)
0	ISOVALERIANIC-ACID	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
75	KAEMPFEROL	Plant				Stitt, Paul. Why George should eat broccoli.
75	KAEMPFEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	KILOCALORIES	Fruit	1220.0	3514.0	-0.22258717443190237	USDA's Ag Handbook 8 and sequelae)
0	L-NORADRENALINE	Fruit				--
0	L-OCTACOSANOL	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
0	L-TRIACONTAOL	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
0	LATEX	Hull Husk		20000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	LAURIC-ACID	Plant				--
7	LAURIC-ACID	Fruit	20.0	78.0	-0.4445625588877466	USDA's Ag Handbook 8 and sequelae)
0	LEAD	Fruit	0.02	0.2	-0.47847549160665437	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Fruit	590.0	1699.0	-0.723256985535825	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	LEUCOCYANIDIN	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	LEUCODELPHINIDIN	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	LIGNIN	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
27	LINOLEIC-ACID	Fruit	560.0	2176.0	-0.32469981100559747	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Plant				--
0	LIPASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	LUTEIN	Fruit	0.033	0.1	-0.826172260047284	--
4	LYSINE	Fruit	600.0	1728.0	-0.6180803627590027	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Fruit	355.0	1118.0	-0.46849293958071714	--
15	MALIC-ACID	Fruit	530.0	3730.0	-0.7089451738600872	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
1	MALONIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
2	MALTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	MALVIDIN	Inflorescence				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	MANGANESE	Fruit	0.6	1.8	-0.3916685247648986	--
1	MERCURY	Fruit	0.001	0.007	-0.5062779328438466	ACTA AGRIC SCAND SUPPL 22: 1980
15	METHIONINE	Fruit	170.0	490.0	-0.5769499370844757	USDA's Ag Handbook 8 and sequelae)
1	METHYL-AMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	MFA	Fruit	410.0	1593.0		USDA's Ag Handbook 8 and sequelae)
2	MOLYBDENUM	Fruit		0.1	-0.46519775248328327	ACTA AGRIC SCAND SUPPL 22: 1980
13	MUFA	Fruit	410.0	1593.0	-0.23081477776289192	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Fruit	30.0	117.0	-0.2636241301884988	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Plant				--
0	NEO-BETA-CAROTENE-U	Hull Husk	0.1	0.3		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
39	NIACIN	Pith		2.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
39	NIACIN	Hull Husk		50.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
39	NIACIN	Flower		6.0	-0.8712931513442106	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
39	NIACIN	Fruit	5.0	29.0	-0.4237487633855353	--
3	NICKEL	Fruit	0.01	0.1	-0.7490491492163406	ACTA AGRIC SCAND SUPPL 22: 1980
0	NITROGEN	Fruit	1600.0	15000.0	0.0264845172682941	ACTA AGRIC SCAND SUPPL 22: 1980

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	NONACOSANE	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
0	NONANCOSANE	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
0	NOREPINEPHRINE	Hull Husk		122.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	NOREPINEPHRINE	Fruit		1.9		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	OBTUSIFOLIOL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
18	OLEIC-ACID	Fruit	270.0	1049.0	-0.47266016696700736	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Plant				--
9	OXALIC-ACID	Fruit	22.0	5240.0	-0.01740293689701496	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.
9	OXALIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	OXYGENASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID	Plant				--
13	PALMITIC-ACID	Fruit	1250.0	4856.0	-0.28993795982707443	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	PALMITOLEIC-ACID	Plant				--
2	PALMITOLEIC-ACID	Fruit	120.0	466.0	-0.2602597774499237	USDA's Ag Handbook 8 and sequelae)
11	PANTOTHENIC-ACID	Fruit	2.5	10.1	-0.5105744994157486	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Hull Husk	3800.0	12800.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
24	PECTIN	Fruit	7000.0	40000.0	-0.15534295636880713	--
7	PELARGONIDIN	Inflorescence				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
3	PEONIDIN	Inflorescence				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	PEROXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	PETUNIDIN	Inflorescence				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
7	PHENYLALANINE	Fruit	380.0	1476.0	-0.6415201458057507	USDA's Ag Handbook 8 and sequelae)
0	PHOSPHATASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	PHOSPHORIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
4	PHOSPHORUS	Fruit	110.0	1127.0	-0.6345107936748954	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Pith		100.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	PHOSPHORUS	Leaf		2400.0	-0.47311414829736437	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Flower		500.0	-1.3494385884884244	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	PHYLLOQUINONE	Fruit		0.001	-0.23285139490462353	--
0	PHYTATE	Fruit	320.0	1110.0	-0.595894613699573	--
2	PHYTOSTEROLS	Fruit	160.0	622.0	-0.41659810477662523	USDA's Ag Handbook 8 and sequelae)
2	PHYTOSTEROLS	Plant				--
2	PIPECOLIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	POTASSIUM	Fruit	3700.0	15631.0	-0.20220710217397536	--
0	PROLINE	Fruit	400.0	1554.0	-0.6735254442350362	USDA's Ag Handbook 8 and sequelae)
0	PROPANOLAMINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	PROTEASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PROTEIN	Sprout Seedling		24000.0	-1.8929598088709294	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Shoot	18930.0	255900.0	0.4068419752321502	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROTEIN	Pith		5000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PROTEIN	Fruit	10040.0	65400.0	-0.5911601045759545	--
0	PROTEIN	Leaf		99000.0	-1.1257384013756186	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Flower		61000.0	-0.9490455129837524	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	PUFA	Fruit	890.0	3458.0	-0.5919741952789742	USDA's Ag Handbook 8 and sequelae)
0	PUTRESINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
1	PYRUVIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
176	QUERCETIN	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
176	QUERCETIN	Plant				Stitt, Paul. Why George should eat broccoli.
1	QUINIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	RHAMNOSE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
15	RIBOFLAVIN	Fruit	0.4	6.0	0.21217503041366062	--
0	RUBIDIUM	Fruit	2.5	20.0	0.07314523441279815	ACTA AGRIC SCAND SUPPL 22: 1980

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
87	RUTIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	SALICYLATES	Fruit		0.0	-0.3367420403588193	--
60	SELENIUM	Fruit	0.001	0.04	-0.37626818123891814	ACTA AGRIC SCAND SUPPL 22: 1980
1	SERINE	Fruit	410.0	1826.0	-0.6414950219816531	USDA's Ag Handbook 8 and sequelae)
26	SEROTONIN	Hull Husk	47.0	93.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
26	SEROTONIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
26	SEROTONIN	Fruit	8.0	50.0	0.4683014551040585	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	SFA	Fruit	1850.0	7187.0	-0.22139006648707202	USDA's Ag Handbook 8 and sequelae)
14	SHIKIMIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	SILICA	Fruit		238.0	-0.9833969454855744	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	SILICON	Fruit	70.0	350.0	0.5286974483372949	ACTA AGRIC SCAND SUPPL 22: 1980
0	SITOINDOSIDE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	SITOSATEROL	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SITOSTEROL	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
1	SODIUM	Fruit	8.0	670.0	-0.12041543891909645	--
1	SPERMIDINE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
5	STARCH	Stem		50000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	STARCH	Fruit	7000.0	17500.0	-0.4298504597828927	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	STEARIC-ACID	Fruit	60.0	233.0	-0.26376934970743887	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Plant				--
12	STIGMASTEROL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	SUCCINIC-ACID	Leaf				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
7	SUCCINIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SUCROSE	Fruit	500.0	18400.0	-0.6163549379514491	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
14	SULFUR	Fruit		100.0	-0.91491817172242	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	TARTARIC-ACID	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
31	THIAMIN	Fruit	0.3	6.9	0.20062145480143725	--
4	THREONINE	Fruit	340.0	1321.0	-0.7053040118582944	USDA's Ag Handbook 8 and sequelae)
93	TOCOPHEROL	Fruit	2.0	11.0	-0.6391754761240738	USDA's Ag Handbook 8 and sequelae)
29	TRYPTOPHAN	Fruit	120.0	466.0	-0.5395507034941179	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Fruit	240.0	932.0	-0.6160602189889636	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Fruit	460.0	1826.0	-0.5420226330945653	USDA's Ag Handbook 8 and sequelae)
24	VANILLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
0	VIT-B-6	Fruit	3.0	22.5	2.403015787711775	USDA's Ag Handbook 8 and sequelae)
0	WATER	Shoot		926000.0	1.044633718353655	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
0	WATER	Fruit	626000.0	757000.0	-0.05902857329768702	--
0	WATER	Pith		883000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Latex Exudate		114600.0	-1.4142135623730951	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Flower		902000.0	0.5857500312892728	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	WATER	Bulb		902000.0	0.6328300985646054	--
0	XANTHOPHYLLS	Hull Husk	1.0	7.3		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	XYLOSE	Fruit				Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
77	ZINC	Fruit	1.0	6.5	-0.7160904438430368	USDA's Ag Handbook 8 and sequelae)