

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Phoenix dactylifera*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CARBOHYDRATES	Fruit	366100.0	948500.0	0.8856462811146213	USDA's Ag Handbook 8 and sequelae)
0	CARBOHYDRATES	Seed	655000.0	853000.0	1.3098878992465333	--
0	SUGARS	Fruit	380000.0	850000.0	2.6243722986131766	--
0	WATER	Fruit	153000.0	785000.0	0.06271804760462396	--
14	SUCROSE	Fruit	0.0	400000.0	2.089285952799339	--
7	GLUCOSE	Fruit		357000.0	2.893929119951419	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		308000.0	4.088589817170726	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	Seed	64000.0	300000.0	1.304614634419771	--
5	STARCH	Fruit		206000.0	-0.14195257090516208	Abstract (See species file)
0	FAT	Seed	60000.0	100000.0	-0.8711556020733713	--
0	WATER	Seed	71700.0	90000.0	-0.5280558401867593	--
15	FIBER	Fruit	22000.0	85000.0	-0.5348255773149249	--
0	PROTEIN	Seed	18200.0	58000.0	-1.5637970615499415	--
7	LAURIC-ACID	Seed	4800.0	54000.0	-0.028060776935393963	--
18	OLEIC-ACID	Seed	27000.0	51000.0	-0.55985026693048	--
0	TANNINS	Plant	7500.0	44800.0	-1.3376143849489774	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	5000.0	44800.0	-0.30721619226445124	--
0	PENTOSANS	Seed		43600.0	-0.7306943367909774	Abstract (See species file)
0	PROTEIN	Fruit	9000.0	43000.0	-0.8914418450258965	--
0	PECTINS	Fruit	7200.0	39000.0	0.7313878222750974	--
0	PENTOSANS	Fruit		38800.0	-0.45384631987127366	Abstract (See species file)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	SUCROSE	Seed		38200.0	-0.15445921462296788	Abstract (See species file)
30	POLYPHENOLS	Fruit		30000.0	1.146789651247877	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	GALLO-TANNIN	Plant	4300.0	27800.0		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	Fruit	1000.0	25000.0	-0.4503041007248309	--
13	PALMITIC-ACID	Seed	15000.0	25000.0	-0.18376993157030574	--
35	TANNIN	Fruit	200.0	18000.0	-0.7380230311091176	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Seed	8900.0	18000.0	-0.8987230012448024	--
7	GLUCOSE	Seed		16800.0	-0.14985111390158956	Abstract (See species file)
8	FRUCTOSE	Seed		15300.0	1.4089399073526936	Abstract (See species file)
27	LINOLEIC-ACID	Seed	6000.0	10000.0	-0.8321526228533093	--
8	STEARIC-ACID	Seed	3000.0	10000.0	-0.3484239972825226	--
8	ELLAGITANNIN	Plant	0.0	9900.0		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	370.0	8795.0	1.69456590371845	--
14	POTASSIUM	Fruit	6250.0	8780.0	-0.8083399078943273	USDA's Ag Handbook 8 and sequelae)
8	GLUTAMIC-ACID	Fruit	400.0	6160.0	-0.5507946581831958	--
3	ISOLEUCINE	Fruit	20.0	4650.0	0.3040077606201815	--
2	ASPARAGINE	Fruit	2300.0	4500.0	2.264581694669994	Abstract (See species file)
6	MYRISTIC-ACID	Seed	2400.0	4000.0	-0.24363975823939635	--
0	KILOCALORIES	Fruit	1420.0	3550.0	-0.16790939262374893	--
22	GABA	Fruit	2660.0	3370.0	1.407126578678398	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	GAMMA-AMINOBUTYRIC-ACID	Fruit	2660.0	3370.0	1.7044292848924936	Abstract (See species file)
3	ASPARTIC-ACID	Fruit	20.0	3150.0	-0.9207574415888534	--
12	GLYCINE	Fruit	40.0	3010.0	-0.2300074341376021	--
1	RAFFINOSE	Seed		3000.0	-0.7470721014785289	Abstract (See species file)
3	VALINE	Fruit	5.0	2710.0	-0.3596290253078901	--
4	LYSINE	Fruit	30.0	2450.0	-0.4310869639742895	--
14	POTASSIUM	Seed	28.0	2440.0	-0.8908725075191605	Abstract (See species file)
1	STACHYOSE	Seed		2200.0	-1.4073378200507318	Abstract (See species file)
15	METHIONINE	Fruit	5.0	2190.0	1.5164823455152185	--
14	ARGININE	Fruit	620.0	2090.0	-0.5920936366686652	--
28	CALCIUM	Fruit	140.0	2000.0	-0.4283573443119461	--
1	SERINE	Fruit	60.0	1960.0	-0.5941860880545526	--
8	TYROSINE	Fruit	10.0	1730.0	-0.2853897488258916	--
0	CHLORIDE	Seed		1610.0	1.413247926503847	Abstract (See species file)
0	PROLINE	Fruit	120.0	1590.0	-0.6636420137419976	--
3	ALANINE	Fruit	80.0	1290.0	-0.9501454757917915	--
2	LEUCINE	Fruit	5.0	1140.0	-0.8420937960569738	--
13	CYSTEINE	Fruit	110.0	1140.0	1.0	Abstract (See species file)
4	PHOSPHORUS	Seed		1120.0	-1.1187018222711056	Abstract (See species file)
4	THREONINE	Fruit	10.0	980.0	-0.8470550566495191	--
5	GLUTAMINE	Fruit	650.0	870.0	1.1267392876723437	--
1	SODIUM	Seed	15.0	820.0	0.5859664537894901	Abstract (See species file)
65	MAGNESIUM	Fruit	325.0	790.0	-0.6203759963079205	--
112	ASCORBIC-ACID	Fruit	0.0	750.0	-0.23785626092666567	--
7	PHENYLALANINE	Fruit	8.0	740.0	-0.8967709656324975	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	SILICON	Fruit		660.0	1.5358789152594374	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
29	TRYPTOPHAN	Fruit	500.0	645.0	-0.2883336982090432	USDA's Ag Handbook 8 and sequelae)
14	SULFUR	Fruit	510.0	590.0	-0.5738869470964798	--
2	CYSTINE	Fruit	7.0	580.0	-0.4707560662338592	--
28	CALCIUM	Seed	18.0	436.0	-0.6814478670478287	Abstract (See species file)
21	CHLOROPHYLL	Fruit	0.0	410.0	1.542593994049385	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
7	HISTIDINE	Fruit	10.0	390.0	-0.9273080508754981	--
1	SODIUM	Fruit	10.0	380.0	-0.1479158132265294	--
7	CHLORINE	Fruit	270.0	310.0	-0.4791512669647793	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
6	IRON	Fruit	10.0	151.0	0.07148811973975773	--
39	NIACIN	Fruit	10.0	135.0	0.9932872798882364	--
5	ALUMINUM	Fruit		51.0	-0.20868440554018103	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
14	MANGANESE	Fruit	3.0	45.0	-0.10681336019281051	--
7	SALICYLATES	Fruit	3.0	45.0	-0.20770615344752882	--
77	ZINC	Seed	0.6	29.0	-0.4579921356186253	Abstract (See species file)
6	IRON	Seed	5.0	17.0	-0.6216437483021793	Abstract (See species file)
14	MANGANESE	Seed		16.0	-0.467393923690488	Abstract (See species file)
5	ALUMINUM	Seed	3.0	13.0	-0.34201085436666395	Abstract (See species file)
11	PANTOTHENIC-ACID	Fruit	8.0	10.0	-0.5169531369709149	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
26	SEROTONIN	Fruit	8.0	9.0	-1.3897978667604325	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
3	CADMIUM	Seed	0.0	9.0	4.252910566397704	Abstract (See species file)
4	BORON	Fruit		7.0	-0.6629690111653129	Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron).
77	ZINC	Fruit	3.0	4.0	-0.7913051373688869	USDA's Ag Handbook 8 and sequelae)
12	COPPER	Fruit	2.0	4.0	-0.6863742487163819	--
0	LEAD	Seed	0.1	4.0	0.4585092910843749	Abstract (See species file)
53	BETA-CAROTENE	Fruit	1.0	3.6	-0.14384189399264724	--
0	VIT-B-6	Fruit	2.0	3.0	-0.8751338727185397	USDA's Ag Handbook 8 and sequelae)
12	COPPER	Seed	0.6	2.0	-1.1623352892566066	Abstract (See species file)
31	THIAMIN	Fruit	0.1	1.7	-0.4650060616434584	--
15	RIBOFLAVIN	Fruit	0.2	1.3	-0.7944081953947483	--
15	FOLACIN	Fruit	0.08	0.17	-0.7670170596960343	USDA's Ag Handbook 8 and sequelae)
12	IODINE	Fruit		0.06	-0.2904150459573493	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	PHYLLOQUINONE	Fruit		0.06	-0.22359887323159108	--
1	CHOLESTEROL	Fruit		0.0		USDA's Ag Handbook 8 and sequelae)
0	6BETA-HYDROXYSTIGMASTA-4,22-DIEN-3-ONE	Stem				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	ISOCHLOROGENIC-ACID	Fruit				Abstract (See species file)
0	3,5-DIHYDROXY-4-METHOXY-BENZOIC-ACID	Stem				Abstract (See species file)
12	STIGMASTEROL	Fruit				Abstract (See species file)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
57	COUMARIN	Leaf				Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
0	LINONELIC-ACID	Seed				Abstract (See species file)
5	CAPRYLIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	PALMITOLEIC-ACID	Seed				Abstract (See species file)
0	6BETA-HYDROXYCAMPEST-4-ENE-3-ONE	Stem				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	TRICOSANOIC-ACID	Seed				Abstract (See species file)
87	RUTIN	Pollen Or Spore				Abstract (See species file)
47	BETA-SITOSTEROL	Pollen Or Spore				Abstract (See species file)
0	3,5,4'-TRIHYDROXYSTILBENE	Stem				Abstract (See species file)
0	STIGMAST-4-ENE-3-ONE	Stem				Abstract (See species file)
3	XYLOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	6-BETA-HYDROXY-STIGMAST-4-EN-3-ONE	Stem				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	TRANS-3,5,3',5'-TETRAHYDROXY-4-METHYLSTILBENE	Stem				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	CAPRIC-ACID	Seed				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
8	ESTRONE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	RIBOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	MALTOSE	Seed				Abstract (See species file)
0	2-O-METHYLXYLOSE	Fruit				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	STIGMAST-4-ENE-3,6-DIONE	Stem				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	PIPECOLIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ARACHIDIC-ACID	Seed				Abstract (See species file)
1	LEUCOANTHOCYANIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	WAX	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	P-HYDROXYBENZALDEHYDE	Stem				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	5ALPHA-CAMPESTERAN-3,6-DIONE	Stem				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
2	CAMPESTEROL	Stem				Abstract (See species file)
0	ESTROGEN	Seed				Abstract (See species file)
9	BETA-AMYRIN	Pollen Or Spore				Abstract (See species file)
0	2,3-DI-O-METHYLXYLOSE	Fruit				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	GALACTURONIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	STIGMAST-4,22-DIENE-3,6-DIONE	Stem				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	CIS-3,5,3',5'-TETRAHYDROXY-4-METHYLSTILBENE	Stem				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	ARABINOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	5-OXYPIPECOLIC-ACID	Fruit				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	CAMPESTAN-4-EN-3-ONE	Stem				Abstract (See species file)
13	P-HYDROXY-BENZOIC-ACID	Stem				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
5	ERGOSTEROL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	RHAMNOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
20	BENZOIC-ACID	Stem				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	2,3,4-TRI-O-METHYLXYLOSE	Fruit				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
1	GALACTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
101	APIGENIN	Stem				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	5-ALPHA-STIGMASTAN-3,6-DIONE	Stem				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	CAMPEST-4-EN-3-ONE	Stem				Abstract (See species file)
9	OXALIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	BEHENIC-ACID	Seed				Abstract (See species file)
16	LYCOPENE	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
2	LUPEOL-ACETATE	Stem				--
0	5-ALPHA-STIGMAST-22-ENE-3,6-DIONE	Stem				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	HENEICOSANOIC-ACID	Seed				Abstract (See species file)
0	CAMPEST-4-EN-3,6-DIONE	Stem				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	DEHYDRO-BETA-CAROTENE	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	Pollen Or Spore				Abstract (See species file)
0	BAIKIAIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	LUTEOLIN-7-RUTINOSIDE	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.
77	CHLOROGENIC-ACID	Fruit				Abstract (See species file)
0	PEROXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	LACTOSE	Seed				Abstract (See species file)
2	VIOLAXANTHIN	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	GLYCOSYLAPIGENIN	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	4-HYDROXY-3-METHOXYBENZALDEHYDE	Stem				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	DACTYLIFRIC-ACID	Fruit				Abstract (See species file)
0	LUTEOLIN-7-GLYCOSIDE	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.
8	ESTRONE	Pollen Or Spore				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
11	SORBITOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FLAVOXANTHIN	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	4-HYDROXY-3-METHOXY-CINNAMIC-ACID	Stem				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	D-MANNOSE	Seed				Abstract (See species file)
15	LUTEIN	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
1	CHOLESTEROL	Pollen Or Spore				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
6	ACETALDEHYDE	Fruit				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	URONIC-ACID	Pollen Or Spore				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-CAFFEYOYLSHIKIMIC-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.
0	LUPYL-ACETATE	Stem				--
1	5-O-CAFFEYOYLSHIKIMIC-ACID	Fruit				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	7BETA-GLUCOSYL-CHRYSOERIOLOL	Stem				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	ISOFUCOSTEROL	Fruit				Abstract (See species file)
0	BRASSICASTEROL	Seed				Abstract (See species file)
0	MARGARIC-ACID	Seed				Abstract (See species file)
0	3,5-DIHYDROXY-4-METHOXYBENZALDEHYDE	Stem				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
21	LUPEOL	Stem				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.