

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Punica granatum

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(-)-CATECHIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	(-)-PELLETIERINE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
2	1,2,3,4,6-PENTA-O-GALLOYL-BETA-D-GLUCOSE	Leaf				--
0	1,2,3-TRI-O-GALLOYL-BETA-4C-1-GLUCOPYRANOSE	Leaf				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	1,2,3-TRI-O-GALLOYL-BETA-4C1-GLUCOSE	Leaf				--
0	1,2,3-TRI-O-GALLOYL-BETA-D-GLUCOSE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
1	1,2,4,6-TETRA-O-GALLOYL-BETA-D-GLUCOSE	Leaf				--
0	1,2,4-TRI-O-GALLOYL-BETA-D-GLUCOSE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	1,2,6-TRI-O-GALLOYL-BETA-4C-1-GLUCOPYRANOSE	Leaf				--
4	1,2,6-TRI-O-GALLOYL-BETA-D-GLUCOSE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	1,3,4-TRI-O-GALLOYL-BETA-D-GLUCOSE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	1,4,6-TRI-O-GALLOYL-BETA-4C-1-GLUCOPYRANOSE	Leaf				--
0	1,4,6-TRI-O-GALLOYL-BETA-D-GLUCOSE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	1-(2,5-DIHYDROXY-PHENYL)-PYRIDIUM-CHLORIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	1-O-ISOPENTYL-3-O-OCTADEC-2-ENOYL-GLYCEROL	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	1-O-TRANS,CIS,TRANS-OCTADECATRIENOL-GLYCEROL	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	17-ALPHA-ESTRADIOL	Seed				--
1	17-BETA-ESTRADIOL	Seed				--
0	17-BETA-ESTRIOL	Seed				--
0	2,3(S)-HEXAHYDROXY-DIPHENOYL-D-GLUCOSE	Stem Bark				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	2,3(S)-HEXAHYDROXY-DIPHENOYL-D-GLUCOSE	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2,3(S)-HEXAHYDROXY-DIPHENOYL-D-GLUCOSE	Root Bark		550.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	2,3,4,5-TETRAHYDRO-6-PROPENYL-PYRIDINE	Stem Bark				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	2,3,4,5-TETRAHYDRO-A-METHYL-2-PYRIDINE-ETHANOL	Stem Bark				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	2-(2'-HYDROXYPROPYL-DELTA-1)-PIPERIDEINE	Root Bark				--
0	2-(2'-PROPENYL)-DELTA-1-PIPERIDEINE	Root Bark				--
0	2-(2-PROPENYL)-DELTA-PIPERIDEINE	Leaf				--
0	2-(2-PROPENYL)-DELTA-PIPERIDEINE	Leaf				--
0	2-(2-PROPENYL)-DELTA-PIPERIDEINE	Root Bark				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	2-O-GALLOYL-4,6(S,S)-GALLAGOYL-D-GLUCOSE	Stem Bark				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	2-O-GALLOYLPUNICALIN	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-O-GALLOYLPUNICALIN	Stem Bark		1100.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	3'-O-METHYL-3,4-METHYLENE-ELLAGIC-ACID	Heart Wood				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	3,3',4'-TRI-O-METHYLELLAGIC-ACID	Flower				--
0	3,3',4'-TRI-O-METHYLELLAGIC-ACID	Seed				--
0	3,3'-DI-O-METHYL-ELLAGIC-ACID	Seed				--
0	3,4,8,9,10-PENTAHYDROXYDIBENZO(B,D)-PYRAN-6-ONE	Leaf				--
0	3,6-(R)-HEXAHYDROXYDIPHENOYL-(ALPHA,BETA)-1C-4-GLUCOPYRANOSE	Leaf				--
0	5-O-GALLOYL-PUNICACORTEIN	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	6-O-GALLOYL-2,3-(S)-HEXAHYDROXYDIPHENOYL-D-GLUCOSE	Stem Bark		50.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	ALKALOIDS	Stem Bark	1000.0	6000.0	-1.0	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
0	ALKALOIDS	Pericarp		1500.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	ALKALOIDS	Root Bark	1000.0	30000.0	1.4120424732511911	--
30	ANTHOCYANINS	Fruit				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
101	APIGENIN	Leaf				--
0	APIGENIN-4'-O-BETA-D-GLUCOSIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	APIGENIN-4'-O-BETA-GLUCOPYRANOSIDE	Leaf				--
0	ARACHIDIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
112	ASCORBIC-ACID	Fruit Juice				--
112	ASCORBIC-ACID	Fruit	40.0	636.0	-0.24494443809781474	--
0	ASH	Fruit	5000.0	35858.0	-0.5387723889485007	USDA's Ag Handbook 8 and sequelae)
1	ASIATIC-ACID	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
1	ASIATIC-ACID	Flower				--
47	BETA-SITOSTEROL	Bark				--
47	BETA-SITOSTEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Fruit	16.0	800.0	0.2568637245861479	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
47	BETA-SITOSTEROL	Leaf				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
47	BETA-SITOSTEROL	Flower				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
47	BETA-SITOSTEROL	Stem Bark				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	BETULIC-ACID	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	BETULIC-ACID	Bark				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	BETULINIC-ACID	Leaf		2000.0	-0.5044387413900017	--
22	BETULINIC-ACID	Bark		1500.0	-0.4974322894297812	--
1	BORIC-ACID	Fruit		50.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	BREVIFOLIN	Leaf				--
1	BREVIFOLIN-CARBOXYLIC-ACID	Leaf				--
0	BREVIFOLIN-CARBOXYLIC-ACID-10-MONOSULPHATE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
102	CAFFEIC-ACID	Leaf				--
102	CAFFEIC-ACID	Plant				--
102	CAFFEIC-ACID	Fruit Juice				--
28	CALCIUM	Fruit	30.0	650.0	-0.7398838481970706	--
4	CALCIUM-OXALATE	Pericarp		40000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	CALCIUM-OXALATE	Petiole		40000.0		--
2	CAMPESTEROL	Seed				--
0	CARBOHYDRATES	Fruit	162000.0	927000.0	0.770674732143034	--
0	CAROTENE	Fruit	0.0	2.0	-0.5854598228654656	--
1	CASTALAGIN	Stem Bark				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	CASUARIIN	Stem Bark		900.0		--
0	CASUARIIN	Plant				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	CASUARIIN	Bark				--
4	CASUARININ	Leaf				--
4	CASUARININ	Plant				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
4	CASUARININ	Stem Bark		3200.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	CASUARININ	Bark				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.
43	CATECHIN	Fruit Juice				--
43	CATECHIN	Leaf				--
0	CATECHIN-(4,8)-GALLOCATECHIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
1	CATECHINS	Fruit				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
0	CEREBROSIDE	Seed				--
7	CHLORINE	Fruit		20.0	-0.688701507537518	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Fruit Juice				--
77	CHLOROGENIC-ACID	Fruit				--
77	CHLOROGENIC-ACID	Leaf				--
1	CHOLESTEROL	Seed				--
18	CINNAMIC-ACID	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	CIS-9,TRANS-11,CIS-13-TRIENE-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
23	CITRIC-ACID	Fruit Juice	8100.0	12300.0	-1.0	--
0	CONIFERYL-9-O-[BETA-D-APIOFURANOSYL(1-6)]-O-BETA-D-GLUCOPYRANOSIDE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CONIINE	Plant				Willaman, J. J., Schubert, B. G. 1961. Alkaloid Bearing Plants and their Contained Alkaloids. ARS, USDA, Tech. Bull. 1234, Supt. Doc., Washington D.C.
3	CONJUGATED-LINOLEIC-ACID	Seed				--
0	CONJUGATED-LINOLENIC-ACID	Seed				--
12	COPPER	Fruit		2.0	-0.8420331371823149	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	CORILAGIN	Leaf				--
13	COUMESTROL	Plant				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
13	COUMESTROL	Seed				--
7	CYANIDIN	Fruit				--
0	CYANIDIN-3,5-DI-O-GLUCOSIDE	Fruit Juice				--
0	CYANIDIN-3,5-DIGLUCOSIDE	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	CYANIDIN-3-GLUCOSIDE	Fruit				--
19	CYANIDIN-3-O-GLUCOSIDE	Fruit Juice				--
1	CYANIDIN-3-RUTINOSIDE	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	CYCLIC-2,4,3,6-BIS(4,4',5,5',6,6'HEXAHYDR OXYL[1,1'-BIPHENYL]2,2'-DICARBOXYLATE)1(3,4,5-TRIHYDROXYBENZOATE)B ETA-D-GLUCOSE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	D-MANNITOL	Stem				=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
0	D-MANNITOL	Seed				=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
0	D-MANNITOL	Root				=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
0	D-MANNITOL	Stem Bark				=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
0	D-MANNITOL	Leaf				=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
0	D-MANNITOL	Bark				--
5	DAUCOSTEROL	Seed				--
5	DAUCOSTEROL	Flower				--
9	DELPHINIDIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	DELPHINIDIN-3,5-DI-O-GLUCOSIDE	Fruit Juice				--
0	DELPHINIDIN-3,5-DIGLUCOSIDE	Pericarp				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	DELPHINIDIN-3-GLUCOSIDE	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	DELPHINIDIN-3-O-GLUCOSIDE	Fruit Juice				--
0	DI-O-PUNICYL-O-OCTADECA-8Z,11Z,13E-TRIENYLGLYCEROL	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	DIELLAGIC-ACID-RHAMNOSYL-(1-4)-GLUCOSIDE	Heart Wood				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EICOSENOIC-ACID	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
2	ELAIDIC-ACID	Pericarp		5500.0		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.
51	ELLAGIC-ACID	Fruit				--
51	ELLAGIC-ACID	Leaf				--
51	ELLAGIC-ACID	Pericarp				--
51	ELLAGIC-ACID	Flower				--
51	ELLAGIC-ACID	Bark				--
51	ELLAGIC-ACID	Stem Bark				Chemical Constituents of Oriental Herbs (3 diff. books)
51	ELLAGIC-ACID	Seed				--
8	ELLAGITANNIN	Leaf				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
8	ELLAGITANNIN	Stem Bark				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
8	ELLAGITANNIN	Bark				--
40	EPICATECHIN	Leaf				--
40	EPICATECHIN	Fruit Juice				--
2	EPIGALLOCATECHIN-3-GALLATE	Leaf				--
2	EPIGALLOCATECHIN-3-GALLATE	Fruit Juice				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ERIODICTYOL-7-O-ALPHA-L-ARABINOFURANOSYL-(1,6)-BETA-D-GLUCOSIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	ESCHWEILENOL-C	Heart Wood				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
3	ESTRADIOL	Seed				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.
6	ESTRIOL	Seed				--
8	ESTRONE	Seed	4.0	17.0	1.0	--
1	ETHYL-BREVIFOLIN-CARBOXYLATE	Flower				--
0	FAT	Seed	50000.0	200000.0	-0.34441983215421706	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FAT	Fruit	1000.0	38000.0	-0.3510111464027894	--
61	FERULIC-ACID	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
15	FIBER	Seed		224000.0	0.7045056542441206	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	FIBER	Fruit	2000.0	232000.0	0.8523370851423435	--
0	FLAVAN-3-OL	Leaf				--
0	FLAVAN-3-OL	Fruit				--
0	FLAVOGALLOL	Pericarp				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	FLAVONES	Fruit				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
0	FLAVONOIDS	Fruit				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
0	FLAVONOLS	Fruit				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
3	FLUORIDE	Plant	0.2	0.3	-0.8323167879989225	--
2	FRIEDELIN	Stem Bark				--
2	FRIEDELIN	Bark				--
0	FRIEDOOLEANAN-3-ONE	Stem Bark				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
8	FRUCTOSE	Fruit Juice				--
8	FRUCTOSE	Fruit				--
7	FUMARIC-ACID	Fruit				--
0	GALLAGYLDILACTON	Leaf				--
62	GALLIC-ACID	Pericarp	900.0	40000.0	-1.0	--
62	GALLIC-ACID	Fruit Juice				--
0	GALLOCATECHIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	GALLOCATECHIN-(4,8)-CATECHIN	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GALLOCATECHIN-(4,8)-GALLOCATECHIN	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	GALLOTANNINS	Pericarp	200000.0	280000.0		--
14	GAMMA-TOCOPHEROL	Seed				--
7	GLUCOSE	Fruit	50000.0	110000.0	0.27238028821747395	--
7	GLUCOSE	Fruit Juice				--
1	GLYCERIN	Twig		300.0		Hegnauer, R. 1962-1997. Chemotaxonomie der Pflanzen, Bde 1-11. Birkhauser Verlag Basel, Boston, Berlin.
2	GRANATIN-A	Pericarp				--
2	GRANATIN-A	Leaf				--
0	GRANATIN-B	Pericarp				--
0	GRANATIN-B	Leaf				--
0	GRANATINS	Leaf		15000.0		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	GUM	Petiole		32000.0		--
0	GUMS	Pericarp		32000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HYGRINE	Root Bark				--
0	ICARISIDE-D1	Seed				--
19	INULIN	Pericarp		10000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
19	INULIN	Petiole		10000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	INVERT-SUGARS	Fruit	80000.0	200000.0	-0.011529771646811144	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
6	IRON	Fruit	3.0	16.0	-0.4640204950877506	USDA's Ag Handbook 8 and sequelae)
5	ISOPELLETIERINE	Bark				--
0	ISOQUERCETRIN	Pericarp				--
22	ISOQUERCITRIN	Pericarp				--
75	KAEMPFEROL	Leaf				--
75	KAEMPFEROL	Plant				--
75	KAEMPFEROL	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
75	KAEMPFEROL	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	KAEMPFEROL-3-O-GLYCOSIDE	Leaf				--
0	KAEMPFEROL-3-O-RHAMNOGLYCOSIDE	Leaf				--
0	L-MALIC-ACID	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	LIGNAN	Seed				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	LIGNIN	Seed				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
27	LINOLEIC-ACID	Seed				--
0	LINOLENIC-ACID	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
78	LUTEOLIN	Leaf				--
78	LUTEOLIN	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
78	LUTEOLIN	Plant				--
78	LUTEOLIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	LUTEOLIN-3'-O-BETA-D-GLUCOSIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	LUTEOLIN-3'-O-BETA-D-XYLOSIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	LUTEOLIN-3'-O-BETA-GLUCOPYRANOSIDE	Leaf				--
0	LUTEOLIN-3'-O-BETA-XYLOPYRANOSIDE	Leaf				--
0	LUTEOLIN-4'-O-BETA-D-GLUCOSIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LUTEOLIN-4'-O-BETA-GLUCOPYRANOSIDE	Leaf				--
0	LUTEOLIN-7-O-GLYCOSIDE	Leaf				--
65	MAGNESIUM	Fruit		120.0	-0.9306249231592199	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	MALIC-ACID	Fruit				--
15	MALIC-ACID	Fruit Juice				--
2	MALTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	MALVIDIN	Fruit				--
0	MALVIDIN-PENTOSE-GLYCOSIDE	Fruit Juice				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	MANNITOL	Twig		5000.0		Hegnauer, R. 1962-1997. Chemotaxonomie der Pflanzen, Bde 1-11. Birkhauser Verlag Basel, Boston, Berlin.
18	MANNITOL	Pericarp	8000.0	19000.0		--
6	MASLINIC-ACID	Flower				--
23	MELATONIN	Fruit Juice				--
15	METHIONINE	Fruit				--
16	METHYL-GALLATE	Heart Wood				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	METHYL-ISOPELLETIERINE	Stem Bark				--
0	METHYL-ISOPELLETIERINE	Bark				--
0	METHYL-PELLETIERINE	Stem Bark				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	METHYL-PELLETIERINE	Bark				--
3	MUCILAGE	Pericarp	6000.0	340000.0		--
3	MUCILAGE	Petiole	6000.0	340000.0		--
34	MYRICETIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	N-(2',5'-DIHYDROXYPHENYL)-PYRIDIUM-CHLORIDE	Leaf				--
0	N-METHYLPELLETIERENE	Root Bark				--
0	N-METHYLPELLETIERENE	Bark				--
0	NARINGENIN-4'-METHYLEETHER-7-O-ALPHA-L-ARABINOFURANOSYL(1,6) BETA-D-GLUCOSIDE	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
12	NARINGIN	Leaf				--
12	NARINGIN	Plant				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
2	NEO-CHLOROGENIC-ACID	Fruit				--
39	NIACIN	Fruit	3.0	50.0	-0.14301520764261824	--
0	NORHYGRINE	Root Bark				--
0	NORPSEUDOPELLETIERINE	Root Bark				--
0	O-COUMARINIC-ACID	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
64	OLEANOLIC-ACID	Flower				--
18	OLEIC-ACID	Seed				--
9	OXALIC-ACID	Fruit		140.0	-0.2986291034837599	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
25	P-COUMARIC-ACID	Leaf				--
25	P-COUMARIC-ACID	Fruit Juice				--
0	P-COUMARINIC-ACID	Fruit				--
13	PALMITIC-ACID	Seed				--
11	PANTOTHENIC-ACID	Fruit	6.0	31.0	0.8225607496139891	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Pericarp	20000.0	40000.0		--
24	PECTIN	Fruit		2700.0	-0.5981917795860573	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	PEDUNCULAGIN	Leaf				--
9	PEDUNCULAGIN	Stem Bark		80.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
7	PELARGONIDIN	Leaf				--
0	PELARGONIDIN-3,5-DI-O-GLUCOSIDE	Fruit Juice				--
0	PELARGONIDIN-3,5-DIGLUCOSIDE	Flower				--
0	PELARGONIDIN-3-GLUCOSIDE	Seed				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	PELARGONIDIN-3-O-GLUCOSIDE	Fruit Juice				--
12	PELLETIERINE	Stem Bark				--
12	PELLETIERINE	Root Bark				--
12	PELLETIERINE	Leaf				--
12	PELLETIERINE	Bark				--
0	PHENETHYL-RUTINOSIDE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	PHOSPHATIDYL-CHOLINE	Seed				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	PHOSPHATIDYL-INOSITOL	Seed				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	PHOSPHATIDYL-SERINE	Seed				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	PHOSPHOLIPIDS	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
4	PHOSPHORUS	Fruit	80.0	3182.0	-0.010325528528400199	--
2	PHYTOSTEROLS	Fruit	170.0	892.0	-0.06876203739451835	USDA's Ag Handbook 8 and sequelae)
0	PIPERIDINES	Stem Bark		4000.0		--
0	PIPERIDINES	Root Bark		8000.0		--
30	POLYPHENOLS	Fruit	2200.0	10500.0	-0.7128692426675994	--
0	POMEGRANATATE	Flower				--
14	POTASSIUM	Fruit	1330.0	18950.0	0.09143685961055947	--
1	PROCYANIDIN-B-1	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
1	PROCYANIDIN-B-2	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROLINE	Fruit				--
0	PROTEIN	Seed		25000.0	-1.8573491515252696	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Fruit	7700.0	73000.0	-0.4892787997804384	--
43	PROTocatechuic-acid	Fruit				--
0	PSEUDOPELLETIERINE	Root Bark				--
0	PSEUDOPELLETIERINE	Bark				--
0	PSEUDOPELLETIERINE	Stem Bark				--
0	PUNICACORTEIN-A	Stem Bark		30.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	PUNICACORTEIN-A	Root Bark				--
0	PUNICACORTEIN-A	Bark				--
0	PUNICACORTEIN-B	Stem Bark		30.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	PUNICACORTEIN-B	Root Bark				--
0	PUNICACORTEIN-B	Bark				--
1	PUNICACORTEIN-C	Stem Bark		950.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
1	PUNICACORTEIN-C	Root Bark				--
1	PUNICACORTEIN-C	Bark				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PUNICACORTEIN-D	Root Bark				--
0	PUNICACORTEIN-D	Stem Bark		60.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	PUNICACORTEIN-D	Bark				--
0	PUNICACORTEINS	Bark				--
0	PUNICACORTEINS	Stem Bark				--
1	PUNICAFOLIN	Plant				--
1	PUNICAFOLIN	Leaf				--
12	PUNICALAGIN	Root Bark				--
12	PUNICALAGIN	Pericarp				--
12	PUNICALAGIN	Bark				--
12	PUNICALAGIN	Leaf				--
12	PUNICALAGIN	Stem Bark		1400.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
7	PUNICALIN	Pericarp				--
7	PUNICALIN	Stem Bark		550.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
7	PUNICALIN	Root Bark				--
7	PUNICALIN	Bark				--
7	PUNICALIN	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	PUNICIC-ACID	Seed	26395.0	147100.0	1.0	--
0	PUNICIC-ACID-(CIS-9,TRANS-11,CIS-13-OCTADECATRIENOIC-ACID)	Seed				--
0	PUNIGLUCONIN	Stem Bark		140.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	PUNIGLUCONIN	Bark				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	PUNIGLUCONIN-2,3-DI-O-GALLOYL-4,6-(S)-HEXAHYDROXYDIPHENOLGLUCONIC-ACID	Bark				--
176	QUERCETIN	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
176	QUERCETIN	Leaf				--
176	QUERCETIN	Fruit				--
176	QUERCETIN	Plant				--
0	QUERCETIN-3,4'-DIMETHYLEETHER-7-O-ALPHA-L-ARABINOFURANOSYL(1,6) BETA-D-GLUCOSIDE	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	QUERCETIN-3-O-RUTINOSIDE	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	QUERCIMERITRIN	Fruit				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
1	QUINIC-ACID	Leaf				--
1	QUINIC-ACID	Fruit				--
0	RESINS	Pericarp		45000.0		--
15	RIBOFLAVIN	Fruit	0.0	4.0	-0.21615825716438572	--
87	RUTIN	Fruit Juice				--
87	RUTIN	Plant				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
87	RUTIN	Leaf				--
7	SALICYLATES	Fruit	0.7	3.5	-0.32670591582127445	--
0	SEDRIDINE	Root Bark				--
26	SEROTONIN	Seed		12.0	-1.4142135623730947	--
26	SEROTONIN	Fruit Juice				--
0	SINAPYL-9-O-[BETA-D-APIOFURANOSYL(1-6)]-O-BETA-D-GLUCOPYRANOSIDE	Seed				--
0	SITOSTEROL-BETA-D-GLUCOSIDE	Flower				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
1	SODIUM	Fruit	9.0	350.0	-0.1507606795341949	--
11	SORBITOL	Plant				--
11	SORBITOL	Twig		9100.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	STARCH	Seed		0.0	-1.2559710465133322	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	STEARIC-ACID	Seed				--
12	STIGMASTEROL	Seed				--
1	STRICTININ	Leaf				--
0	STYPTIC-ACID	Flower				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				--
14	SUCROSE	Fruit				--
14	SULFUR	Fruit		120.0	-0.900998529900953	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
35	TANNIN	Fruit Juice		1700.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
35	TANNIN	Root		70000.0	-0.2012194983751788	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
35	TANNIN	Stem Bark	100000.0	250000.0	1.3814745788840543	--
35	TANNIN	Root Bark	20000.0	280000.0	0.8535499454737059	--
35	TANNIN	Pericarp	104000.0	336000.0	1.0	--
35	TANNIN	Leaf		110000.0	-0.006475522921307877	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	TARTARIC-ACID	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	TELLIMAGRANLIN	Leaf				--
7	TELLIMAGRANLIN-I	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
7	TELLIMAGRANLIN-I	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	TERCATAIN	Leaf				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	TERMINALIN-GALLAYLDILACTONE	Pericarp				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
11	TESTOSTERONE	Seed				--
31	THIAMIN	Fruit	0.0	4.0	-0.17059389090821606	--
0	TRI-O-PUNICYLGLYCEROL	Seed				Seeram, N. P., Schulman, R. N., and Heber, D., eds. 2006. Pomegranates - Ancient Roots to Modern Medicine. Taylor & Francis. Boca Raton, FL. 244 pp.
0	TRITERPENIDS	Flower				Newman, R. A., Lansky, E. P., with Block, M. L. 2007. Pomegranate - The Most Medicinal Fruit. Basic Health Publications, Laguna Beach, CA. 120 pp.
4	TRYPTAMINE	Fruit Juice				--
89	URSOLIC-ACID	Pericarp		6000.0		Hegnauer, R. 1962-1997. Chemotaxonomie der Pflanzen, Bde 1-11. Birkhauser Verlag Basel, Boston, Berlin.
89	URSOLIC-ACID	Seed				--
89	URSOLIC-ACID	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
89	URSOLIC-ACID	Leaf		4500.0	-0.31429246959919654	--
89	URSOLIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	VALINE	Fruit				--
0	VIT-B-6	Fruit	1.0	5.0	-0.538913394725687	USDA's Ag Handbook 8 and sequelae)
0	WATER	Seed		350000.0	0.46967261430564855	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Fruit	780000.0	823220.0	0.22890218513627894	--
0	WAX	Pericarp		8000.0	1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.