

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Crataegus laevigata*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	SUCROSE	Bark				--
4	PROCYANIDIN-B-4	Flower				--
27	LINOLEIC-ACID	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	BETA-PHENETHYLAMINE	Flower				--
0	VITEXIN-4'-RHAMNOSIDE	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
15	RIBOFLAVIN	Fruit				--
21	LUPEOL	Bark				--
0	NEOTEGOLIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	2,,3,3',4,4',5,7-HEPTAHYDROXYFLAVANBIOSIDE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	TARTARIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	2-PHENYLCHROMONE	Flower				--
0	2-ALPHA-HYDROXY-OLEANOLIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	NOREPINEPHRINE	Shoot				--
3	CADMIUM	Fruit				--
20	CHOLINE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	GUANINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
38	(-)-EPICATECHIN	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	(+)-CATECHIN	Flower				--
9	OXALIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CRATAEGUS-BIFLAVANOID-B-2	Fruit				--
34	PROANTHOCYANIDINS	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
8	STEARIC-ACID	Bark				--
1	PROCYANIDIN-B-2	Flower				--
0	LEUCOANTHOCYANIDIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	BETA-PHENETHYLAMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	VITEXIN-4',L-RHAMNO-D-GLUCOSIDE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	RHAMNOSE	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
30	HYPEROSIDE	Bark				--
0	ETHANOLAMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
38	(-)-EPICATECHIN	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	(+)-CATECHIN	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
77	CHLOROGENIC-ACID	Leaf				--
0	ETHYL-AMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
40	EPICATECHIN	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
18	VITEXIN	Bark				--
77	ZINC	Flower				--
0	OCTACOSANE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	CHLOROGENIC-ACID	Bud				--
87	RUTIN	Bud				--
14	MANGANESE	Flower				--
7	LAURIC-ACID	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	APIGETRIN	Bud				--
0	VITEXIN-4',7-DI-D-GLUCOSIDE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
44	QUERCITRIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	HYPEROSIDE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ETHYL-AMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	ADENINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	THIAMINE	Fruit				--
0	VITEXIN-4'-RHAMNOSIDE	Bark				--
0	CATECHIN-TANNINS	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	DIMETHYL-AMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
29	ESCULIN	Bark				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
18	VITEXIN	Leaf				--
0	VITEXIN-RHAMNOSIDE	Leaf				--
0	O-METHOXY-BETA-PHENETHYLAMINE	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
77	CHLOROGENIC-ACID	Bark				--
64	OLEANOLIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
87	RUTIN	Flower				--
0	LEAD	Fruit				--
0	L-EPICATECHOL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	APIGETRIN	Leaf				--
18	VITEXIN	Fruit				--
0	QUERCETIN-3-RHAMNOGALACTOSIDE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	HYPEROSIDE	Shoot				--
0	ETHANOLAMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	ADENOSINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	VITEXIN-4'-RHAMNOSIDE	Leaf				--
0	CRATAEGOLIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
33	AESCULIN	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
18	VITEXIN	Shoot				--
0	VITEXIN-RHAMNOSIDE	Flower				--
0	NONACOSAN-10-OL	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	CHLOROGENIC-ACID	Shoot				--
176	QUERCETIN	Shoot				--
0	LEAD	Flower				--
0	NOREPINEPHRINE	Flower				--
101	APIGENIN	Bud				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	AMINOPURINE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
89	URSOLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	CADMIUM	Flower				--
0	O-METHOXY-PHENYLETHYLAMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
30	HYPEROSIDE	Flower				--
29	ESCULIN	Fruit				--
19	ACETYL-CHOLINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	VITEXIN-4'-RHAMNOSIDE	Branches				--
0	VITEXIN-RHAMNOSIDE	Plant				Schussler, M., Fricke, U., Nikolov, N., and Holzl, J. 1991. Comparison of the Flavonoids Occurring in Crataegus species and Inhibition of 3',5'-Cyclic Adenosine Monophosphate Phosphodiesterase. Plant Medica 57: Suppl Issue 2. p.A-133.
18	VITEXIN	Branches				--
1	VITEXIN-2'-O-RHAMNOSIDE	Flower				--
39	NIACIN	Fruit				--
77	CHLOROGENIC-ACID	Fruit				--
20	CHOLINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
176	QUERCETIN	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CYNAROSIDE	Leaf				--
0	NOREPINEPHRINE	Leaf				--
0	ISOBUTYL-AMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
101	APIGENIN	Leaf				--
0	URIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
33	AESCULIN	Shoot				--
11	PROCYANIDIN	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
30	HYPEROSIDE	Branches				--
2	DIMETHYL-AMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	VITEXIN-4',7-DI-D-GLUCOSIDE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	VITEXIN-4'-RHAMNOSIDE	Flower				--
0	VITEXIN-4'-L-RHAMNOSIDE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
18	VITEXIN	Flower				--
0	VITEXIN-2'-RHAMNOSIDE	Leaf				--
0	NEOATEGOLIC-ACID	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
77	CHLOROGENIC-ACID	Flower				--
102	CAFFEIC-ACID	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ACANTOLIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	PROCYANIDIN-B-2	Fruit				--
3	CYNAROSIDE	Flower				--
11	SORBITOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	MASLINIC-ACID	Shoot				--
0	ISOAMYL-AMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ACETYL-VITEXIN-4'-RHAMNOSIDE	Branches				Jim Duke's personal files.
28	ADENOSINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	TYRAMINE	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	TANNINS	Flower				--
11	EPINEPHRINE	Flower				--
0	CRATAEGOLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	VITEXIN-4',L-RHAMNO-D-GLUCOSIDE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	VITEXIN-4'-O-ALPHA-L-RHAMNOSIDE	Shoot				--
18	VITEXIN	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
89	URSOLIC-ACID	Shoot				--
1	VITEXIN-2"-O-ALPHA-L-RHAMNOSIDE	Plant				--
0	CERYL-ALCOHOL	Bark				--
40	EPICATECHIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	PROCYANIDIN	Leaf				--
0	CROMIUM	Fruit				--
0	LUTEOLIN-3',7-DIGLUCOSIDE	Bud				--
6	IRON	Fruit				--
15	5-HYDROXYTRYPTAMINE	Shoot				--
11	ADENINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	TRIMETHYLAMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	SAPONINS	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	ERIDICTOL-GLYCOSIDE	Plant				Schussler, M., Fricke, U., Nikolov, N., and Holzl, J. 1991. Comparison of the Flavonoids Occurring in Crataegus species and Inhibition of 3',5'-Cyclic Adenosine Monophosphate Phosphodiesterase. Plant Medica 57: Suppl Issue 2. p.A-133.
11	EPINEPHRINE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	TYRAMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
38	(-)-EPICATECHIN	Bud				--
0	VITEXIN-2'-RHAMNOSIDE	Fruit				--
4	SPIRAEOSIDE	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
89	URSOLIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
87	RUTIN	Plant				--
102	CAFFEIC-ACID	Bud				--
43	CATECHIN	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
13	PALMITIC-ACID	Bark				--
0	CROMIUM	Flower				--
4	SILICON	Fruit				--
0	LUTEOLIN-3',7-DIGLUCOSIDE	Leaf				--
30	HYPEROSIDE	Fruit				--
0	5-HYDROXY-INDOLE-ACETIC-ACID	Shoot				--
0	ACETYL-VITEXIN-4'-RHAMNOSIDE	Fruit				--
0	TRANS-CRATAEGOLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ORIENTIN-GLYCOSIDES	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	CHLOROGENIC-ACID	Plant				--
0	PHLOBAPHENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
20	DOPAMINE	Shoot				--
23	CITRIC-ACID	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
1	TRIMETHYLAMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
38	(-)-EPICATECHIN	Shoot				--
30	(+)-CATECHIN	Bud				--
0	QUERCETIN-GLYCOSIDE	Plant				Schussler, M., Fricke, U., Nikolov, N., and Holzl, J. 1991. Comparison of the Flavonoids Occurring in Crataegus species and Inhibition of 3',5'-Cyclic Adenosine Monophosphate Phosphodiesterase. Plant Medica 57: Suppl Issue 2. p.A-133.
11	TYRAMINE	Flower				--
0	PROCYANIDIN-C-1	Flower				--
0	LIPASE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
102	CAFFEIC-ACID	Shoot				--
1	BETA-PHENETHYLAMINE	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
77	ZINC	Fruit				--
78	LUTEOLIN	Bud				--
1	GUANINE	Leaf				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	URIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
19	ACETYL-CHOLINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
78	LUTEOLIN	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
102	CAFFEIC-ACID	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
9	OXALIC-ACID	Bark				--
12	COPPER	Fruit				--
0	ISOBUTYL-AMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
38	(-)-EPICATECHIN	Leaf				--
30	(+)-CATECHIN	Tissue Culture				--
24	PECTIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CRATAEGUS-BIFLAVANOID-C-1	Fruit				--
176	QUERCETIN	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
6	TARTARIC-ACID	Bark				--
0	PROCYANIDIN-B-5	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LINOLENIC-ACID	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
102	CAFFEIC-ACID	Flower				--
87	RUTIN	Leaf				--
78	LUTEOLIN	Leaf				--
7	GLUCOSE	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	QUERCETIN-3-RHAMNOGALACTOSIDE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	ACANTOLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
31	THIAMIN	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
101	APIGENIN	Fruit				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	AMINES	Plant				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	O-METHOXY-BETA-PHENETHYLAMINE	Flower				--
12	COPPER	Flower				--
20	CHOLINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ISOAMYL-AMINE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
38	(-)-EPICATECHIN	Flower				--
30	(+)-CATECHIN	Leaf				--
13	PALMITIC-ACID	Fruit				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	CRATAEGUS-BIFLAVANOID-B-5	Fruit				--
14	MANGANESE	Fruit	0.4	1.4	-0.39430607258501055	--
24	CHROMIUM	Fruit	0.5	1.7	-0.26885440473667177	--
2	COBALT	Fruit	0.6	2.0	-0.29299669899909336	--
60	SELENIUM	Fruit	0.6	2.0	0.10976555089417979	--
53	BETA-CAROTENE	Fruit	1.4	5.0	-0.14113571921676207	--
4	TIN	Fruit	3.6	13.0	-0.3261703903199725	--
5	ALUMINUM	Fruit	8.0	29.0	-0.21508468192276714	--
1	SODIUM	Fruit	15.0	55.0	-0.17873519822623876	--
112	ASCORBIC-ACID	Fruit	24.0	85.0	-0.2792039610917021	--
65	MAGNESIUM	Fruit	262.0	940.0	-0.5509172813412117	--
4	PHOSPHORUS	Fruit	405.0	1450.0	-0.5364028420241324	--
8	AMYGDALIN	Leaf		1500.0	-0.7071067811865472	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
112	ASCORBIC-ACID	Leaf	166.4	1800.0	-0.27690303367535113	--
0	EO	Fruit	279.0	2500.0	-0.7713693690086117	--
0	KILOCALORIES	Fruit		2890.0	-1.1703353924398954	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
28	CALCIUM	Fruit	1554.0	5570.0	0.3954571881842723	--
47	BETA-SITOSTEROL	Leaf	5100.0	6200.0	2.2672781336507843	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
47	BETA-SITOSTEROL	Flower	6500.0	7800.0	0.9253646230843826	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	HYPEROSIDE	Plant		10000.0	-0.707106781186548	--
14	POTASSIUM	Fruit	3069.0	11000.0	-0.6119284601203993	--
0	PROTEIN	Fruit	3906.0	14000.0	-1.2801994554298393	--
0	FLAVONOIDS	Shoot	10000.0	20000.0	-0.47676335348397514	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ASH	Fruit	8091.0	29000.0	-0.7163626815965894	--
6	PYCNOGENOL	Shoot	10000.0	30000.0		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
25	OPC	Shoot	10000.0	30000.0		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	FAT	Fruit	10881.0	39000.0	-0.34337322683955546	--
15	FIBER	Fruit		108000.0	-0.31778652128419577	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FIBER(CRUDE)	Fruit		108000.0	-0.4250705302983724	--
0	SUGARS	Fruit	33480.0	120000.0	-0.388868598447453	--
5	STARCH	Fruit	41850.0	180000.0	-0.18166262454346976	--
0	SUGAR	Fruit		350000.0	1.0965198301112378	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FIBER(DIETARY)	Fruit		386000.0	0.11897072890689903	--
0	WATER	Fruit		721000.0	-0.2155599430292297	--
0	CARBOHYDRATES	Fruit	256122.0	918000.0	0.722547106992137	--