

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Malus domestica

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Refernce Citation |
|------------------|--------------------------------|-----------------|---------|----------|--------|--|
| 2 | QUERCETIN-3-O-BETA-D-GLUCOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | CAROTENOIDS | Plant | 0.0 | 126.0 | | -- |
| 44 | QUERCITRIN | Fruit Juice | | | | -- |
| 0 | PHOSPHATIDYL-GLYCEROL | Fruit | 8.0 | 27.0 | | -- |
| 0 | L-MALIC-ACID | Plant | | | | -- |
| 0 | 1-MONOOLEIN | Seed | | | | -- |
| 1 | METHYL-AMINE | Pericarp | | 4.5 | | -- |
| 1 | HEXYL-ACETATE | Plant | | | | -- |
| 77 | CHLOROGENIC-ACID | Fruit Juice | | | | -- |
| 0 | BENZYL-AMINE | Fruit | 0.3 | 3.0 | | -- |
| 0 | BENZYL-AMINE | Pericarp | | 0.6 | | -- |
| 0 | ABSCISIC-ACID | Fruit | | | | -- |
| 0 | N-METHYL-BETA-PHENETHYLAMINE | Fruit | | 1.2 | | -- |
| 1 | METHYL-AMINE | Fruit Epidermis | | 4.5 | | -- |
| 1 | ETHYL-FORMATE | Fruit | | | | -- |
| 0 | ISOAMYL-PROPIONATE | Plant | | | | -- |
| 30 | (+)-CATECHIN | Pt | | | | -- |
| 2 | FARNESENE | Pericarp | | | | -- |
| 2 | NONACOSANE | Plant | | | | -- |
| 0 | 2-PHENETHYLACETATE | Plant | | | | -- |
| 0 | N-BUTYL-OCTANOATE | Plant | | | | -- |
| 1 | PROCYANIDIN-B-2 | Pericarp | 15.0 | 100.0 | | -- |
| 4 | D-CATECHIN | Fruit | | | | -- |
| 1 | AMYL-FORMATE | Fruit | | | | -- |
| 0 | PROPYL-PROPIONATE | Plant | | | | -- |
| 0 | BUTYL-PROPIONATE | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------------------|-----------------|---------|----------|--------|--|
| 0 | PROCYANIDIN-B-5 | Leaf | | | | -- |
| 0 | PENTYL-HEXANOATE | Plant | | | | -- |
| 0 | 2,4-METHYLENE-CHOLESTEROL | Pollen Or Spore | | | | -- |
| 7 | AVICULARIN | Fruit Juice | | | | -- |
| 0 | ETHYL-DODECANOATE | Plant | | | | -- |
| 0 | P-COUMARIC-ACID-1 | Leaf | 0.0 | 320.0 | | -- |
| 2 | POMOLIC-ACID | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | LUTEOXANTHIN | Fruit | | | | -- |
| 0 | PHLORETIN-2'-XYLOGUCOSIDE | Fruit Juice | | | | -- |
| 0 | I-HEXANOIC-ACID | Plant | | | | -- |
| 0 | GAMMA-GUANIDINOPROPIONIC-ACID | Stem | | | | -- |
| 0 | ISOAMYL-BUTYRATE | Fruit | | | | -- |
| 0 | GALACTARIC-ACID | Plant | | | | -- |
| 0 | ALPHA-OXOGLUTARIC-ACID | Plant | | | | -- |
| 0 | TRANS-N-HEX-2-EN-1-OL | Plant | | | | -- |
| 0 | QUERCETIN-3-O-ALPHA-GALACTOSIDE | Fruit Epidermis | | | | -- |
| 0 | PHOSPHATIDYL-ETHANOLAMINE | Fruit | 101.0 | 124.0 | | -- |
| 0 | L-EPICATECHIN | Fruit | | | | -- |
| 1 | SPERMINE | Bud | | | | Wang, S. Y., Faust, M. 1994. Changes in Polyamine Content During Dormancy in Flower Buds of 'Anna' Apple. J. Amer. Soc. Hort. Sci., 119(1): 70-73. |
| 3 | HEXANOL | Plant | | | | -- |
| 102 | CAFFEIC-ACID | Fruit Juice | | | | -- |
| 9 | BENZYL-ACETATE | Plant | | | | -- |
| 0 | 7-HEXANOIC-ACID | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-----------------|---------|----------|--------|--|
| 7 | SUCCINIC-ACID | Plant | | | | -- |
| 1 | N-HEXYL-PROPIONATE | Plant | | | | -- |
| 0 | (Z)-HEX-2-ENAL | Fruit | | | | -- |
| 3 | METHYL-ACETATE | Plant | | | | -- |
| 0 | DIPHOSPHATIDYL-GLYCEROL | Fruit | 4.0 | 6.0 | | -- |
| 1 | EPSILON-CAROTENE | Plant | | | | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 7 | AVICULARIN | Leaf | 0.0 | 1425.0 | | -- |
| 3 | GLYCERIC-ACID | Plant | | | | -- |
| 0 | ARABINOSE | Plant | | | | -- |
| 0 | VOMIFOLIOL-1-O-BETA-D-XYLOPYRANOSYL-6-O-BETA-D-GLUCOPYRANOSIDE | Plant | | | | -- |
| 0 | 2-PENTANOL | Plant | | | | -- |
| 38 | (-)-EPICATECHIN | Pericarp | | | | -- |
| 0 | N-BUTYL-N-HEXANOATE | Plant | | | | -- |
| 2 | FARNESENE | Fruit Epidermis | | | | -- |
| 1 | PROCYANIDIN-B-2 | Fruit | 2.0 | 10.0 | | -- |
| 0 | D-2-METHYLBUTAN-1-OL | Plant | | | | -- |
| 0 | ALPHA-FARNESENE | Fruit Epidermis | | | | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 0 | PROPYL-N-PENTANOATE | Plant | | | | -- |
| 0 | BUTYL-CAPROATE | Plant | | | | -- |
| 4 | PROCYANIDIN-B-4 | Leaf | | | | -- |
| 0 | PENTYL-BUTYRATE | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------------------------|-----------------|---------|----------|--------|--|
| 0 | ISOAMYL-BUTYRATE | Plant | | | | -- |
| 30 | (+)-CATECHIN | Pericarp | | | | -- |
| 0 | 19-HYDROXYURSONIC-ACID | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | AROMADENDRIN-3-O-BETA-D-GLUCOSIDE | Heart Wood | | | | -- |
| 0 | METHYL-VINYL-KETONE | Fruit | | | | -- |
| 0 | ETHYL-DECENOATE | Plant | | | | -- |
| 0 | N-HEXYL-N-HEXANOATE | Plant | | | | -- |
| 87 | RUTIN | Fruit Epidermis | | | | -- |
| 0 | POLYPHENOLASE | Plant | | | | -- |
| 0 | OCTANE-1,3-DIOL-GLYCOSIDE | Fruit Juice | | | | -- |
| 0 | OXALOACETIC-ACID | Plant | | | | -- |
| 0 | I-DECANOIC-ACID | Plant | | | | -- |
| 0 | GAMMA-GUANIDINOBUTYRIC-ACID | Stem | | | | -- |
| 30 | HYPEROSIDE | Pericarp | | | | -- |
| 0 | GALACTANASE | Plant | | | | -- |
| 0 | TRANS-ABSCISIC-ACID | Fruit | | | | -- |
| 0 | N-PENTYL-2-METHYLBUTYRATE | Plant | | | | -- |
| 0 | QUERCETIN-3-O-ALPHA-ARABINOFURANOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | CAPRYLIC-ESTER | Plant | | | | -- |
| 176 | QUERCETIN | Heart Wood | | | | -- |
| 2 | PHOSPHATIDYL-CHOLINE | Fruit | 189.0 | 214.0 | | -- |
| 1 | METHYL-AMINE | Fruit | | 5.6 | | -- |
| 1 | SPERMIDINE | Bud | | | | Wang, S. Y., Faust, M. 1994. Changes in Polyamine Content During Dormancy in Flower Buds of 'Anna' Apple. J. Amer. Soc. Hort. Sci., 119(1): 70-73. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Refernce Citation |
|------------------|--|-----------------|---------|----------|--------|-------------------|
| 0 | HEXACOSANOL | Plant | | | | -- |
| 20 | BENZOIC-ACID | Plant | | | | -- |
| 0 | ANILINE | Pericarp | | 1.7 | | -- |
| 9 | OXALIC-ACID | Plant | | | | -- |
| 0 | 6-METHYL-HEPTEN-5-EN-2-ONE | Fruit | | | | -- |
| 0 | N-HEXYL-OCTANOATE | Plant | | | | -- |
| 0 | VALERALDEHYDE | Fruit | | | | -- |
| 0 | METHYL-2-XI-ACETOXY-20-BETA-HYDROXY-URSONATE | Fruit Epidermis | | | | -- |
| 0 | DIHYDROXYTRICARBALLYLIC-ACID | Fruit | | 1.0 | | -- |
| 40 | EPICATECHIN | Pericarp | 20.0 | 80.0 | | -- |
| 0 | N-ALPHA-ACETYL-ARGININE | Shoot | | | | -- |
| 5 | GLUTAMINE | Plant | | 20.0 | | -- |
| 0 | ANILINE | Fruit Epidermis | | 1.7 | | -- |
| 0 | 2-METHYL-PROPEN-1-AL | Fruit | | | | -- |
| 38 | (-)-EPICATECHIN | Fruit | | | | -- |
| 1 | N-BUTYL-FORMATE | Plant | | | | -- |
| 0 | ETHYL-VALERIANATE | Plant | | | | -- |
| 6 | ACETALDEHYDE | Fruit | | | | -- |
| 0 | PROPYL-FORMATE | Plant | | | | -- |
| 0 | BUTYL-BUTYRATE | Plant | | | | -- |
| 1 | PROCYANIDIN-B-2 | Fruit Juice | | | | -- |
| 0 | PENTANOL | Plant | | | | -- |
| 30 | (+)-CATECHIN | Fruit | | | | -- |
| 101 | APIGENIN | Heart Wood | | | | -- |
| 0 | METHYL-PROPIONATE | Plant | | | | -- |
| 0 | ETHYL-CROTONATE | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-------------|---------|----------|--------|---|
| 0 | METHYL-VALERATE | Fruit | | | | -- |
| 23 | CITRIC-ACID | Plant | | | | -- |
| 0 | POLYGALACTURONASE | Plant | | | | -- |
| 0 | OCTANE-1,3-DIOL | Fruit Juice | | | | -- |
| 0 | I-BUTYL-PROPIOANTE | Plant | | | | -- |
| 0 | GAMMA-GUANIDINOBUTRAMIDE | Stem | | | | -- |
| 0 | BUTYL-ACETATE | Plant | | | | -- |
| 1 | N-HEXYL-PROPIONATE | Fruit | | | | -- |
| 7 | FUMARIC-ACID | Plant | | | | -- |
| 0 | ALPHA-AMINO-BUTYRIC-ACID | Plant | | | | -- |
| 0 | TRANS-2-HEXENOIC-ACID | Plant | | | | -- |
| 0 | N-PENTENOIC-ACID | Plant | | | | -- |
| 0 | 19-HYDROXYURSOLIC-ACID | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | CAPROIC-ACID-AMYL-ESTER | Plant | | | | -- |
| 0 | PROCYANIDIN-OLIGOMERS | Fruit | | | | -- |
| 8 | PHLORIZIN | Plant | | | | -- |
| 22 | ISOQUERCITRIN | Fruit | | | | -- |
| 78 | LUTEOLIN | Heart Wood | | | | -- |
| 0 | ROSEOSIDE | Leaf | | | | Winterhalter, P., Guldner, A., Guldner, A., Jakob, U., Schreier, P. 1994. 3-hydroxy-5,6-epoxy-beta-ionyl-beta-d-glucopyranoside from Malus domestica leaves. Nat. Prod. Lett., 4(1): 57-60. |
| 0 | HEPTENOIC-ACID | Plant | | | | -- |
| 3 | AMYL-BUTYRATE | Fruit | | | | -- |
| 0 | 5,6-EPOXY-10'-APO-5,6-DIHYDRO-BETA-CAROTENE-3,10'-DIOL | Plant | | 20000.0 | | -- |
| 0 | N-HEXANOL | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------------------|-------------|---------|----------|--------|--|
| 2 | METHYL-2-METHYL-BUTYRATE | Plant | | | | -- |
| 0 | DIGALACTOSYL-DIGLYCERIDE | Fruit | 49.0 | 107.0 | | -- |
| 40 | EPICATECHIN | Fruit | 4.0 | 11.0 | | -- |
| 0 | QUERCETIN-3-O-RUTINOSIDE | Plant | | | | -- |
| 8 | PHLORIZIN | Leaf | | | | -- |
| 0 | ANILINE | Fruit | | 1.5 | | -- |
| 0 | 2-METHYL-PENTAN-2-OL | Plant | | | | -- |
| 38 | (-)-EPICATECHIN | Fruit Juice | | | | -- |
| 0 | N-BUTYL-DECANOATE | Plant | | | | -- |
| 1 | ETHYL-PROPIONATE | Plant | | | | -- |
| 0 | CYANIDIN-7-ARABINOSIDE | Plant | | | | -- |
| 0 | 4-P-COUMAROYLQUINIC-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 | PROPYL-BUTYRATE | Plant | | | | -- |
| 1 | PROCYANIDIN-B-1 | Pericarp | | | | -- |
| 0 | PECTIN-DEMETHOXYXYLASE | Plant | | | | -- |
| 12 | IODINE | Plant | | | | -- |
| 30 | (+)-CATECHIN | Leaf | | | | -- |
| 0 | ABSCISIC-ACID | Fruit Juice | | | | -- |
| 0 | METHYL-N-PENTANOATE | Plant | | | | -- |
| 0 | ETHYL-CAPROATE | Plant | | | | -- |
| 0 | METHYL-NONAN-3-ONE | Fruit | | | | -- |
| 0 | CITRAMALIC-ACID | Plant | | | | -- |
| 0 | POLYGALACTOSYL-DIGLYCERIDE | Plant | | | | -- |
| 0 | OCT-CIS-5-ENE-1,3-DIOL-GLYCOSIDE | Fruit Juice | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-------------------------|-----------------|---------|----------|--------|--|
| 0 | I-BUTYL-OCTANOATE | Plant | | | | -- |
| 62 | GALLIC-ACID | Pericarp | | | | -- |
| 0 | BUTANOL | Plant | | | | -- |
| 1 | HEXYL-BUTYRATE | Fruit | | | | -- |
| 0 | ALPHA-ALANINE | Fruit | | | | -- |
| 0 | N-PENTANOIC-ACID | Plant | | | | -- |
| 0 | 1-OCTYL-ACETATE | Plant | | | | -- |
| 0 | CAPROALDEHYDE | Plant | | | | -- |
| 0 | PROCYANIDIN-G | Leaf | | | | -- |
| 0 | PHLORETIN-XYLOGLUCOSIDE | Fruit | 1.0 | 3.0 | | -- |
| 0 | ISOPROPYL-BUTYRATE | Plant | | | | -- |
| 0 | PUTRESCINE | Bud | | | | Wang, S. Y., Faust, M. 1994. Changes in Polyamine Content During Dormancy in Flower Buds of 'Anna' Apple. J. Amer. Soc. Hort. Sci., 119(1): 70-73. |
| 0 | HEPTACOSANE | Plant | | | | -- |
| 7 | AVICULARIN | Fruit | | | | -- |
| 0 | AMYL-ACETATE | Fruit | | | | -- |
| 0 | OCTENOIC-ACID | Plant | | | | -- |
| 0 | 4-HYDROXYMETHYLPROLINE | Plant | | | | -- |
| 11 | SORBITOL | Leaf | | | | -- |
| 0 | N-HEX-1-EN-3-OL | Plant | | | | -- |
| 2 | DIETHYL-AMINE | Fruit | | 3.0 | | -- |
| 60 | CINNAMALDEHYDE | Fruit | | | | -- |
| 0 | AMYL-PROPIONATE | Plant | | | | -- |
| 89 | URSOLIC-ACID | Fruit Epidermis | | | | -- |
| 2 | NEOXANTHIN | Fruit Epidermis | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---|-------------|---------|----------|--------|--|
| 0 | 2-METHYL-BUTAN-2-OL | Plant | | | | -- |
| 7 | AVICULARIN | Pericarp | | | | -- |
| 0 | N-BUTANOL | Plant | | | | -- |
| 0 | ETHYL-PHENACETATE | Plant | | | | -- |
| 0 | CYANIDIN-3-GALACTOSIDE | Plant | | | | -- |
| 0 | 2-(1,1-DIMETHYLETHYL)-CYCLOHECYLACETATE | Fruit | | | | -- |
| 0 | PROPYL-ACETATE | Plant | | | | -- |
| 1 | PROCYANIDIN-B-1 | Leaf | | | | -- |
| 7 | INDOLE-3-ACETIC-ACID | Plant | | | | Stitt, Paul. Why George should eat broccoli. |
| 25 | P-COUMARIC-ACID | Leaf | | | | -- |
| 87 | RUTIN | Pericarp | | | | -- |
| 8 | STEARIC-ACID | Seed | | | | Fathy, M. M., Abd El Megid, R. M. 1995. A Comparative Study of the Lipid Contents and the Antimicrobial Activity of Certain Rosaceous Seeds. Zagazig J Pharm Sci, 4(2): 121-127. |
| 0 | METHYL-I-PENTANOATE | Plant | | | | -- |
| 1 | ETHYL-BUTYRATE | Plant | | | | -- |
| 4 | METHYL-BENZOATE | Fruit | | | | -- |
| 2 | REYNOUTRIN | Fruit | | | | -- |
| 0 | CIS-N-HEX-3-EN-1-OL | Plant | | | | -- |
| 0 | PIPECOLINIC-ACID | Plant | | | | -- |
| 0 | OCT-CIS-5-ENE-1,3-DIOL | Fruit Juice | | | | -- |
| 30 | HYPEROSIDE | Fruit | | | | -- |
| 62 | GALLIC-ACID | Fruit | | | | -- |
| 1 | HEXYL-ACETATE | Fruit | | | | -- |
| 0 | FR | Plant | | | | -- |
| 0 | N-OCTANONE | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|---------------------------------------|-------------|---------|----------|--------|---|
| 0 | 1-NONYL-ACETATE | Plant | | | | -- |
| 0 | PROCYANIDIN-E | Leaf | | | | -- |
| 0 | PHLORETIN-4'-O-BETA-D-GLUCOPYRANOSIDE | Fruit | | 6486.0 | | -- |
| 7 | INDOLE-3-ACETIC-ACID | Stem Bark | | | | -- |
| 0 | HEMICELLULOSE | Plant | | | | -- |
| 6 | ACETALDEHYDE | Fruit Juice | | | | Miyake, T., Shibamoto, T. 1993. Quantitative Analysis of Acetaldehyde in Foods and Beverages. J. Agr. Food Chem, 41(11): 1968-1970. |
| 6 | OCTACOSANOL | Plant | | | | -- |
| 0 | 3-PENTANOL | Plant | | | | -- |
| 0 | N-HEPTANOL | Plant | | | | -- |
| 2 | METHANOL | Plant | | | | -- |
| 0 | DIASTASE | Plant | | | | -- |
| 77 | CHLOROGENIC-ACID | Pericarp | 8.0 | 18.0 | | -- |
| 1 | PYRUVIC-ACID | Plant | | | | -- |
| 4 | CALCIUM-OXALATE | Plant | | | | -- |
| 0 | GLUCOCEREBROSIDE | Plant | 34.0 | 49.0 | | -- |
| 3 | AMYL-BUTYRATE | Plant | | | | -- |
| 0 | URONIC-ACID | Fruit | 7.0 | 1440.0 | | -- |
| 2 | NEO-CHLOROGENIC-ACID | Plant | | | | -- |
| 0 | 2-METHYL-BUT-3-EN-1-OL | Fruit | | | | -- |
| 0 | TRANS-ABSCISIC-ACID | Fruit Juice | | | | -- |
| 0 | N-ALPHA-ACETYL-AGGININE | Shoot | | | | -- |
| 0 | ETHYL-PENTANOATE | Plant | | | | -- |
| 0 | PHLORETIN-XYLOGLUCOSIDE | Pericarp | 7.0 | 27.0 | | -- |
| 9 | SINAPIC-ACID | Fruit | | | | -- |
| 0 | CYANIDIN-3-ARABINOSIDE | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|-------------|---------|----------|--------|--|
| 0 | VOMIFOLIOL-1-O-BETA-D-XYLOPYRANOSYL-6-O-BETA-D-GLUCOPYRANOSIDE | Fruit | | | | -- |
| 0 | PROPYL-2-METHYLBUTYRATE | Plant | | | | -- |
| 1 | PROCYANIDIN-B-1 | Fruit Juice | | | | -- |
| 0 | PECTASE | Plant | | | | -- |
| 0 | IDAEIN | Plant | | | | -- |
| 0 | METHYL-GUANIDINE | Stem | | | | -- |
| 44 | QUERCITRIN | Pericarp | | | | -- |
| 0 | METHYL-HEXANOATE | Plant | | | | -- |
| 0 | ETHYL-AMINE | Fruit | | 3.0 | | -- |
| 1 | ISOVALERALDEHYDE | Fruit | | | | -- |
| 44 | QUERCITRIN | Fruit | | | | -- |
| 0 | CIS-2,TRANS-4-ABSCISIC-ACID | Bark | | | | -- |
| 20 | LECITHIN | Plant | | | | -- |
| 0 | N-1-N-5-N-10-TRI-TRANS-4-COUMAROYL-SPERMIDINE | Flower | | | | -- |
| 14 | HYPERIN | Plant | | | | -- |
| 2 | FRIEDELIN | Heart Wood | | | | -- |
| 1 | ETHYL-PROPIONATE | Fruit | | | | -- |
| 13 | FORMIC-ACID | Plant | | | | -- |
| 11 | ADENINE | Root | | | | -- |
| 0 | N-OCTANOL-2-OCTANOL | Plant | | | | -- |
| 0 | 1-MONO-LINOLEIN | Seed | | | | -- |
| 13 | PALMITIC-ACID | Seed | | | | Fathy, M. M., Abd El Megid, R. M. 1995. A Comparative Study of the Lipid Contents and the Antimicrobial Activity of Certain Rosaceous Seeds. Zagazig J Pharm Sci, 4(2): 121-127. |
| 0 | PROCYANIDIN-D-1 | Leaf | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--------------------------------------|-----------------|---------|----------|--------|--|
| 9 | PHLORETIN | Leaf | 300.0 | 11000.0 | | -- |
| 0 | ISOCITRIC-ACID | Plant | | | | -- |
| 7 | INDOLE-3-ACETIC-ACID | Leaf | | | | -- |
| 23 | MELATONIN | Fruit | | | | Hattori, A., et. al. 1995. Identification of Melatonin in Plants and its Effects on Plasma Melatonin Levels and Binding to Melatonin Receptors in Vertebrates. Biochem. Mol. Biol. Int., 35(3): 627-634. |
| 0 | GUANIDINOSUCCINIC-ACID | Shoot | | | | -- |
| 0 | JASMONIC-ACID | Fruit | | | | -- |
| 0 | OCTA-TRANS-3-CIS-5-DIEN-1-OL-ACETATE | Essential Oil | | | | -- |
| 0 | 3-HYDROXY-OCTYL-BETA-D-GLUCOSIDE | Fruit | | | | -- |
| 0 | N-HEPTANOIC-ACID | Plant | | | | -- |
| 0 | QUERCETIN-XYLOSIDE | Pericarp | 9.0 | 19.0 | | -- |
| 0 | DEHYDROASCORBIC-ACID | Plant | | | | -- |
| 1 | PYRROLIDINE | Fruit Epidermis | | 1.5 | | -- |
| 0 | AMYL-ACETATE | Plant | | | | -- |
| 0 | N-PROPIONIC-ACID | Plant | | | | -- |
| 0 | 2-METHYL-BUT-2-EN-1-AL | Fruit | | | | -- |
| 0 | N-ALPHA-ACETYL-L-ARGININE | Stem | | | | -- |
| 0 | ETHYL-OCTANOATE | Plant | | | | -- |
| 1 | PHLORETIN-GLUCOSIDE | Pericarp | 10.0 | 15.0 | | -- |
| 0 | CYANIDIN-3,5-DIGLUCOSIDE | Cotyledon | | | | -- |
| 89 | URSOLIC-ACID | Pericarp | | | | -- |
| 0 | PROPANOL | Plant | | | | -- |
| 1 | PROCYANIDIN-B-1 | Fruit | | | | -- |
| 0 | I-PROPANOL | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|---------------|---------|----------|--------|--|
| 30 | HYPEROSIDE | Heart Wood | | | | -- |
| 1 | PYRROLIDINE | Pericarp | | 1.5 | | -- |
| 35 | GERANIOL | Plant | | | | -- |
| 6 | ETHYL-ACETATE | Plant | | | | -- |
| 4 | ISOPROPYL-ACETATE | Fruit | | | | -- |
| 0 | QUERCETIN-ARABINOSIDE | Plant | | | | -- |
| 89 | URSOLIC-ACID | Wax | | | | -- |
| 22 | ISOQUERCITRIN | Pericarp | | | | -- |
| 0 | HYDROXYCINNAMIC-ACID | Fruit | | 1340.0 | | -- |
| 0 | CREATINE | Stem | | | | -- |
| 4 | BIOTIN | Plant | | | | -- |
| 2 | ETHYL-ISOBUTYRATE | Fruit | | | | -- |
| 3 | ACETONE | Plant | | | | -- |
| 0 | TETRADECYL-ACETATE | Leaf | | | | -- |
| 0 | N-NONANOL-2-NONANOL | Plant | | | | -- |
| 0 | 1-DECYL-ACETATE | Plant | | | | -- |
| 0 | N-OCTACOSANE | Seed | | | | Fathy, M. M., Abd El Megid, R. M. 1995. A Comparative Study of the Lipid Contents and the Antimicrobial Activity of Certain Rosaceous Seeds. Zagazig J Pharm Sci, 4(2): 121-127. |
| 0 | METHYL-GUANIDINE | Shoot | | | | -- |
| 0 | PHLORETAMIDE | Fruit | | | | -- |
| 4 | ISOCHLOROGENIC-ACID | Plant | | | | Stitt, Paul. Why George should eat broccoli. |
| 0 | METHYL-2-XI-ACETOXY-20-BETA-HYDROXY-URSONATE | Pericarp | | | | -- |
| 0 | GUANIDINOACETIC-ACID | Shoot | | | | -- |
| 8 | INOSITOL | Plant | | | | -- |
| 0 | OCTA-TRANS-3-CIS-5-DIEN-1-OL | Essential Oil | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Refernce Citation |
|------------------|---|-----------------|---------|----------|--------|-------------------|
| 0 | 3-BETA-19-ALPHA-DIHYDROXY-2-OXO-URS-12-EN-28-OIC-ACID | Wood | | 1000.0 | | -- |
| 0 | N-HEHYL-N-HEXANOATE | Plant | | | | -- |
| 0 | QUERCETIN-GLUCOSIDE | Pericarp | 9.0 | 20.0 | | -- |
| 3 | MANNOSE | Plant | | | | -- |
| 0 | DECENOIC-ACID | Plant | | | | -- |
| 0 | BUTANAL | Fruit | | | | -- |
| 0 | PYROXIDINE | Plant | | | | -- |
| 0 | PROCYANIDIN-C-1 | Pericarp | | | | -- |
| 0 | N-PROPANOL | Plant | | | | -- |
| 0 | 2-METHYL-2,3-EPOXY-PENTANE | Fruit | | | | -- |
| 0 | N-ALPHA-ACETYL-L-ARGININE | Shoot | | | | -- |
| 0 | MYO-INOSITOL | Pollen Or Spore | | 4500.0 | | -- |
| 1 | ETHYL-NONANOATE | Plant | | | | -- |
| 1 | PHLORETIN-GLUCOSIDE | Fruit | | 1.0 | | -- |
| 7 | CYANIDIN | Leaf | | | | -- |
| 0 | QUERCETIN-ARABINOSIDE | Pericarp | 18.0 | 37.0 | | -- |
| 17 | PROCYANIDIN-A-2 | Leaf | | | | -- |
| 0 | I-PENTYL-I-PENTANOATE | Plant | | | | -- |
| 30 | HYPEROSIDE | Fruit Juice | | | | -- |
| 0 | PROPYL-BUTYRATE | Fruit | | | | -- |
| 0 | GAMMA-METHYL-PROLINE | Plant | | | | -- |
| 24 | ETHANOL | Plant | | | | -- |
| 2 | ISOAMYL-ACETATE | Fruit | | | | -- |
| 4 | QUERCETIN-3-RHAMNOGLUCOSIDE | Plant | | | | -- |
| 87 | RUTIN | Fruit | | | | -- |
| 0 | PHOSPHATIDYLIC-ACID | Fruit | 3.0 | 6.0 | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------------------------|---------------|---------|----------|--------|--|
| 3 | ISOQUERCETIN | Fruit Juice | | | | -- |
| 4 | COSMOSIIN | Heart Wood | | | | -- |
| 6 | ETHYL-ACETATE | Fruit | | | | -- |
| 0 | ACETIC-ACID-AMYL-ESTER | Plant | | | | -- |
| 0 | TETRADECENYL-ACETATE | Leaf | | | | -- |
| 0 | N-NONANOIC-ACID | Plant | | | | -- |
| 0 | 1-BUTANOL | Plant | | | | -- |
| 0 | N-NONADECANE | Seed | | | | Fathy, M. M., Abd El Megid, R. M. 1995. A Comparative Study of the Lipid Contents and the Antimicrobial Activity of Certain Rosaceous Seeds. Zagazig J Pharm Sci, 4(2): 121-127. |
| 0 | METHYL-FORMATE | Plant | | | | -- |
| 0 | ISOBUTYL-FORMATE | Plant | | | | -- |
| 0 | (+)-EPICATECHIN | Fruit | | | | -- |
| 2 | REYNOUSTRIN | Fruit Juice | | | | -- |
| 6 | GUANIDINE | Shoot | | | | -- |
| 0 | ASCORBIDASE | Plant | | | | -- |
| 0 | OCTA-CIS-3-CIS-5-DIEN-1-OL-ACETATE | Essential Oil | | | | -- |
| 0 | 3,4-BENZOPYRENE | Fruit | | | | -- |
| 0 | N-DECANOL | Plant | | | | -- |
| 0 | QUERCETIN-GALACTOSIDE | Pericarp | 28.0 | 60.0 | | -- |
| 0 | D-L-NONACOSANOL | Plant | | | | -- |
| 0 | BUTAN-2-ONE | Fruit | | | | -- |
| 0 | CAFFEETANNIN | Plant | | | | -- |
| 0 | PROCYANIDIN-C-1 | Leaf | | | | -- |
| 0 | TRIGLYCERIDE | Plant | 45.0 | 50.0 | | -- |
| 0 | N-PENTYL-OCTANOATE | Plant | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Refernce Citation |
|------------------|---------------------------------------|-----------------|---------|----------|--------|-------------------|
| 0 | 2-HEXENAL | Plant | | | | -- |
| 1 | L-ARGININE | Stem | | | | -- |
| 0 | ETHYL-METHYLBUTYRATE | Plant | | | | -- |
| 0 | PHENYLBENZOATE | Fruit | | | | -- |
| 14 | SHIKIMIC-ACID | Plant | | | | -- |
| 0 | CUTIN | Fruit Epidermis | | | | -- |
| 0 | PROPYL-ACETATE | Fruit | | | | -- |
| 27 | PROCYANIDINS | Leaf | | | | -- |
| 8 | PHLORIZIN | Pericarp | | | | -- |
| 0 | I-PENTYL-FORMATE | Plant | | | | -- |
| 0 | GUANIDINOACETIC-ACID | Stem | | | | -- |
| 0 | PHLORETIN-4'-O-BETA-D-GLUCOPYRANOSIDE | Leaf | | 6486.0 | | -- |
| 0 | GAMMA-GUANIDINOPROPIONIC-ACID | Shoot | | | | -- |
| 0 | AMMONIA(NH3) | Fruit Epidermis | 235.0 | 1029.0 | | -- |
| 5 | HEXANAL | Fruit | | | | -- |
| 0 | QUERCETIN-3-O-XYLOSIDE | Fruit Epidermis | | | | -- |
| 87 | RUTIN | Fruit Juice | | | | -- |
| 0 | PHOSPHATIDYL-SERINE | Fruit | | 4.0 | | -- |
| 8 | LACTIC-ACID | Plant | | | | -- |
| 47 | BETA-SITOSTEROL | Heart Wood | | | | -- |
| 1 | N-BUTYL-PROPIONATE | Fruit | | | | -- |
| 1 | HEXYL-FORMATE | Plant | | | | -- |
| 77 | CHLOROGENIC-ACID | Pt | | | | -- |
| 2 | BETA-ALANINE | Fruit | | | | -- |
| 16 | ACETIC-ACID | Plant | | | | -- |
| 0 | N-METHYL-PHENETHYLAMINE | Fruit | | 1.2 | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|--|---------------|---------|----------|--------|--|
| 0 | 1,3,3,-TRIMETHYL-DIOXA-2,7-BICYCLO(2,2,1)HEPTANE | Fruit | | | | -- |
| 47 | BETA-SITOSTEROL | Seed | | | | Fathy, M. M., Abd El Megid, R. M. 1995. A Comparative Study of the Lipid Contents and the Antimicrobial Activity of Certain Rosaceous Seeds. Zagazig J Pharm Sci, 4(2): 121-127. |
| 2 | METHYL-CAPROATE | Plant | | | | -- |
| 0 | ISOBUTYL-BUTYRATE | Plant | | | | -- |
| 30 | (+)-CATECHIN | Bark | | | | -- |
| 0 | QUERCETIN-3-O-RUTINOSIDE | Plant | | | | -- |
| 1 | GLYOXYLIC-ACID | Plant | | | | -- |
| 0 | OCTA-CIS-3-CIS-5-DIEN-1-OL | Essential Oil | | | | -- |
| 0 | 20-HYDROXYURSOLIC-ACID | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | N-COUMARYL-QUINIC-ACID | Plant | | | | -- |
| 0 | QUERCETIN-3-RHAMNOSIDE | Pericarp | 19.0 | 39.0 | | -- |
| 0 | MALVIDIN-MONOGLYCOSIDE | Plant | | | | -- |
| 0 | D-GLUCONIC-ACID | Plant | | | | -- |
| 43 | PROTOCATECHUIC-ACID | Fruit | | | | -- |
| 0 | PROCYANIDIN-C-1 | Fruit Juice | | | | -- |
| 0 | N-PENTYL-FORMATE | Plant | | | | -- |
| 0 | 2-HEPTANOL | Plant | | | | -- |
| 1 | L-ARGININE | Shoot | | | | -- |
| 0 | MONOGALACTOSYL-DIGLYCERIDE | Plant | 12.0 | 42.0 | | -- |
| 2 | ETHYL-ISOBUTYRATE | Plant | | | | -- |
| 0 | PENTAN-2-ONE | Fruit | | | | -- |
| 0 | CREATINE | Shoot | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------------------|-----------------|---------|----------|--------|--|
| 8 | PHLORIDZIN | Fruit Juice | | | | -- |
| 13 | P-HYDROXY-BENZOIC-ACID | Fruit | | | | -- |
| 0 | I-PENTANOL | Plant | | | | -- |
| 6 | GUANIDINE | Stem | | | | -- |
| 2 | METHYL-BUTYRATE | Fruit | | | | -- |
| 0 | GAMMA-GUANIDINOBUTYRIC-ACID | Shoot | | | | -- |
| 3 | TRIACONTANOL | Plant | | | | -- |
| 12 | ESTRAGOLE | Essential Oil | | | | -- |
| 1 | ETHYL-VALERATE | Fruit | | | | -- |
| 1 | QUERCETIN-3-O-RHAMNOSIDE | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 1 | CATALASE | Plant | | | | -- |
| 2 | REYNOUTRIN | Pericarp | | | | -- |
| 0 | PHOSPHATIDYL-INOSITOL | Fruit | 53.0 | 59.0 | | -- |
| 0 | L-QUINIC-ACID | Plant | | | | -- |
| 0 | 3-HYDROXYPHLORIDZIN | Fruit Juice | | | | -- |
| 0 | AMMONIA | Pericarp | | 1029.0 | | -- |
| 1 | HEXYL-BUTYRATE | Plant | | | | -- |
| 77 | CHLOROGENIC-ACID | Seed | | | | -- |
| 0 | BENZYL-AMINE | Fruit Epidermis | | 0.6 | | -- |
| 0 | BUTYL-ACETATE | Fruit | | | | -- |
| 6 | ACETALDEHYDE | Plant | | | | -- |
| 0 | N-METHYL-PHENETHYLAMINE | Exocarp | | 1.3 | | -- |
| 0 | -D-GLUCITOL | Plant | | | | -- |
| 2 | METHYL-BUTYRATE | Plant | | | | -- |
| 3 | ISOBUTYL-ACETATE | Plant | | | | -- |
| 30 | (+)-CATECHIN | Seed | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------------------|-------------|---------|----------|--------|--|
| 0 | N-METHYL-PHENETHYLAMINE | Pericarp | | 1.3 | | -- |
| 4 | GLYCOLIC-ACID | Plant | | | | -- |
| 3 | XYLOSE | Plant | | | | -- |
| 0 | NONENOIC-ACID | Plant | | | | -- |
| 0 | 2-PROPANOL | Plant | | | | -- |
| 1 | N-BUTYL-PROPIONATE | Plant | | | | -- |
| 2 | PROPIONALDEHYDE | Fruit | | | | -- |
| 0 | D-GALACTURONIC-ACID | Plant | 13.0 | 54.0 | | -- |
| 0 | BETA-CAROTENE-5,6-EPOXIDE | Fruit | | | | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| 0 | BUTYL-VALERIANATE | Plant | | | | -- |
| 0 | PROCYANIDIN-C-1 | Fruit | | | | -- |
| 0 | PEROXIDASE | Plant | | | | -- |
| 0 | N-PENTYL-DECANOATE | Plant | | | | -- |
| 0 | 2-BUTANOL | Plant | | | | -- |
| 0 | CIS-2,TRANS-4-ABSCISIC-ACID | Stem Bark | | | | -- |
| 0 | ETHYL-HEXANOATE | Plant | | | | -- |
| 0 | P-COUMARIC-ACID-2 | Leaf | 0.0 | 185.0 | | -- |
| 0 | COUMARIC-ACID | Plant | | | | -- |
| 0 | POMONIC-ACID | Plant | | | | J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991. |
| 0 | PHLORETIN-XYLOSIDE | Fruit Juice | | | | -- |
| 0 | P-COUMARYL-QUINIC-ACID | Fruit | | | | -- |
| 0 | I-PENTANOIC-ACID | Plant | | | | -- |
| 0 | GIBBERELLIN-A-62 | Seed | | | | -- |
| 22 | ISOQUERCITRIN | Fruit Juice | | | | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------------|------------|---------|----------|---------------------|---|
| 0 | GAMMA-GUANIDINOBTAMIDE | Shoot | | | | -- |
| 0 | TRANS-N-HEX-3-EN-1-OL | Plant | | | | -- |
| 77 | CHLOROGENIC-ACID | Leaf | 100.0 | 1200.0 | -1.3240006985895736 | -- |
| 0 | PROTEIN | Fruit | 1870.0 | 12800.0 | -1.2962859772396575 | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp. |
| 3 | ALANINE | Fruit | 70.0 | 435.0 | -1.2861845168681025 | USDA's Ag Handbook 8 and sequelae) |
| 1 | SERINE | Fruit | 80.0 | 497.0 | -1.1107007920496865 | USDA's Ag Handbook 8 and sequelae) |
| 77 | CHLOROGENIC-ACID | Fruit | 5.0 | 15.0 | -1.0935971883111022 | -- |
| 2 | CYSTINE | Plant | 30.0 | 187.0 | -1.078139109591067 | -- |
| 4 | THREONINE | Fruit | 30.0 | 435.0 | -1.0736073129874002 | -- |
| 7 | HISTIDINE | Fruit | 30.0 | 187.0 | -1.0696353953245137 | -- |
| 3 | ASPARTIC-ACID | Fruit | 210.0 | 2115.0 | -1.056731649443471 | USDA's Ag Handbook 8 and sequelae) |
| 14 | ARGININE | Fruit | 60.0 | 373.0 | -1.0500818434124615 | USDA's Ag Handbook 8 and sequelae) |
| 0 | PROLINE | Plant | 20.0 | 435.0 | -1.0472597877182985 | -- |
| 7 | PHENYLALANINE | Fruit | 50.0 | 311.0 | -1.0455516744717288 | -- |
| 29 | TRYPTOPHAN | Fruit | 20.0 | 124.0 | -1.0195295627538696 | -- |
| 8 | ESTRONE | Seed | 0.1 | 0.13 | -1.0000000000000002 | -- |
| 0 | AMMONIA | Fruit | | 235.0 | -1.0 | -- |
| 0 | PHENOLICS | Plant | 1100.0 | 3400.0 | -1.0 | -- |
| 0 | N-PENTYL-AMINE | Fruit | | 0.3 | -0.9999999999999999 | -- |
| 21 | CHLOROPHYLL | Fruit | 0.0 | 1.0 | -0.9710352631864654 | -- |
| 0 | STRONTIUM | Fruit | 0.165 | 8.6 | -0.9690625512009637 | -- |
| 14 | SULFUR | Fruit | 1.65 | 23.0 | -0.9685087927350676 | -- |
| 15 | METHIONINE | Plant | 20.0 | 124.0 | -0.9578509469925256 | -- |
| 3 | ISOLEUCINE | Fruit | 50.0 | 497.0 | -0.9433250929721118 | -- |
| 8 | GLUTAMIC-ACID | Fruit | 156.0 | 1244.0 | -0.9333642189445454 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------|------------|---------|----------|---------------------|---|
| 2 | LEUCINE | Fruit | 120.0 | 746.0 | -0.9258535515942413 | -- |
| 11 | PANTOTHENIC-ACID | Fruit | 1.0 | 4.0 | -0.8996713902808875 | USDA's Ag Handbook 8 and sequelae) |
| 8 | TYROSINE | Fruit | 40.0 | 249.0 | -0.8990776765345502 | -- |
| 0 | VIT-B-6 | Fruit | 1.0 | 3.0 | -0.8751338727185397 | -- |
| 4 | LYSINE | Fruit | 20.0 | 746.0 | -0.8724121045963826 | -- |
| 15 | FIBER | Fruit | 5200.0 | 49636.0 | -0.8685372806832163 | USDA's Ag Handbook 8 and sequelae) |
| 0 | BARIUM | Fruit | 0.22 | 8.6 | -0.8622422515184034 | -- |
| 11 | LITHIUM | Fruit | 0.044 | 0.172 | -0.8448748858580687 | -- |
| 8 | AMYGDALIN | Seed | 6000.0 | 13800.0 | -0.8422024808761887 | -- |
| 2 | ASPARAGINE | Fruit | | 171.0 | -0.825458790451801 | -- |
| 12 | GLYCINE | Plant | 80.0 | 497.0 | -0.8208359653564842 | -- |
| 0 | EO | Fruit | 25.0 | 35.0 | -0.8192816022307305 | -- |
| 3 | VALINE | Fruit | 40.0 | 560.0 | -0.8032333881374735 | -- |
| 15 | RIBOFLAVIN | Fruit | | 1.3 | -0.7944081953947483 | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp. |
| 65 | MAGNESIUM | Fruit | 48.0 | 478.0 | -0.7648501234386748 | -- |
| 28 | CALCIUM | Fruit | 43.0 | 570.0 | -0.75834467805693 | -- |
| 15 | FOLACIN | Fruit | 0.02 | 0.2 | -0.7547576455042277 | USDA's Ag Handbook 8 and sequelae) |
| 34 | MYRICETIN | Fruit | | 0.5 | -0.7536633445071549 | -- |
| 0 | NITROGEN | Fruit | 280.0 | 4000.0 | -0.7448119387296798 | ACTA AGRIC SCAND SUPPL 22: 1980 |
| 39 | NIACIN | Fruit | 1.0 | 7.0 | -0.7178505836876389 | -- |
| 7 | GLUCOSE | Fruit | 17200.0 | 18200.0 | -0.7019443383136035 | -- |
| 4 | PHOSPHORUS | Fruit | 68.0 | 925.0 | -0.6958662309301713 | -- |
| 12 | COPPER | Fruit | 0.24 | 4.0 | -0.6863742487163819 | -- |
| 0 | TITANIUM | Fruit | 0.055 | 3.0 | -0.6858409400678522 | -- |
| 38 | (-)-EPICATECHIN | Leaf | 150.0 | 900.0 | -0.6820874109972213 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|----------------------|------------|---------|----------|----------------------|---|
| 0 | RUBIDIUM | Fruit | 0.27 | 10.0 | -0.6798204139542442 | ACTA AGRIC SCAND SUPPL 22: 1980 |
| 15 | ALPHA-LINOLENIC-ACID | Fruit | 180.0 | 1120.0 | -0.6452626880371877 | -- |
| 3 | NICKEL | Fruit | 0.004 | 0.645 | -0.5833033975627046 | -- |
| 176 | QUERCETIN | Fruit | 2.5 | 41.0 | -0.582618968173555 | -- |
| 75 | KAEMPFEROL | Fruit | | 2.0 | -0.5794291374991353 | -- |
| 3 | CADMIUM | Fruit | 0.002 | 0.026 | -0.5672128851607269 | -- |
| 32 | ALPHA-TOCOPHEROL | Fruit | 2.0 | 37.0 | -0.5521025162177928 | -- |
| 0 | ZIRCONIUM | Fruit | 0.22 | 0.86 | -0.546541741871023 | -- |
| 2 | COBALT | Fruit | 0.005 | 0.043 | -0.5299096696083117 | -- |
| 14 | POTASSIUM | Fruit | 1110.0 | 12140.0 | -0.5110685274797335 | -- |
| 3 | SILVER | Fruit | 0.011 | 0.086 | -0.4995614833070808 | -- |
| 14 | SUCROSE | Fruit | 24000.0 | 36200.0 | -0.49014841841433165 | -- |
| 18 | OLEIC-ACID | Fruit | 140.0 | 871.0 | -0.4740320725940964 | -- |
| 24 | CHROMIUM | Fruit | 0.005 | 0.3 | -0.4654957769727276 | -- |
| 87 | RUTIN | Leaf | 0.0 | 8885.0 | -0.45294433702030634 | -- |
| 7 | LAURIC-ACID | Fruit | 10.0 | 63.0 | -0.44474745342800637 | -- |
| 31 | THIAMIN | Fruit | 1.0 | 2.0 | -0.4266044741562528 | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp. |
| 0 | BROMINE | Fruit | | 1.0 | -0.42563543443835 | ACTA AGRIC SCAND SUPPL 22: 1980 |
| 15 | LUTEIN | Fruit | 0.4 | 5.0 | -0.4027761600563295 | -- |
| 2 | MOLYBDENUM | Fruit | 0.077 | 0.43 | -0.3990584824882058 | -- |
| 60 | SELENIUM | Fruit | | 0.0 | -0.38618723699673646 | -- |
| 4 | SILICON | Fruit | 0.0 | 70.0 | -0.3810148443665756 | -- |
| 0 | FAT | Fruit | 3210.0 | 34200.0 | -0.3800352407430785 | -- |
| 4 | TIN | Fruit | | 0.0 | -0.3771396188984718 | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp. |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|------------------|------------|----------|----------|------------------------|--|
| 4 | PUFA | Fruit | 1050.0 | 6535.0 | -0.3716987814442892 | USDA's Ag Handbook 8 and sequelae) |
| 0 | KILOCALORIES | Fruit | | 3419.0 | -0.36687576531452953 | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp. |
| 0 | ASH | Fruit | 2300.0 | 43000.0 | -0.3538278176314037 | -- |
| 2 | PALMITOLEIC-ACID | Fruit | 10.0 | 62.0 | -0.3340992517515945 | -- |
| 13 | PALMITIC-ACID | Fruit | 480.0 | 2986.0 | -0.31904990505316816 | -- |
| 0 | SFA | Fruit | 580.0 | 3610.0 | -0.29989489934752117 | USDA's Ag Handbook 8 and sequelae) |
| 6 | MYRISTIC-ACID | Fruit | 20.0 | 124.0 | -0.26329389964394695 | -- |
| 112 | ASCORBIC-ACID | Fruit | 20.0 | 402.0 | -0.2594938543964892 | -- |
| 2 | PHYTOSTEROLS | Fruit | 120.0 | 745.0 | -0.2581394518581099 | USDA's Ag Handbook 8 and sequelae) |
| 8 | STEARIC-ACID | Fruit | 70.0 | 435.0 | -0.25037310927026857 | -- |
| 13 | MUFA | Fruit | 150.0 | 935.0 | -0.24039423421132997 | USDA's Ag Handbook 8 and sequelae) |
| 5 | PHYLLOQUINONE | Fruit | | 0.06 | -0.22359887323159108 | -- |
| 14 | MANGANESE | Fruit | 0.0 | 29.0 | -0.2123152729972876 | -- |
| 0 | PHYTATE | Fruit | 630.0 | 4040.0 | -0.2108482779177121 | -- |
| 0 | LINOLENIC-ACID | Fruit | 870.0 | 5411.0 | -0.1866295815550338 | -- |
| 0 | FAT | Seed | 180000.0 | 230000.0 | -0.1863991011784708 | -- |
| 5 | ALUMINUM | Fruit | 0.4 | 129.0 | -0.18599251654737567 | -- |
| 1 | SODIUM | Fruit | 0.0 | 133.0 | -0.1713385458263085 | -- |
| 7 | SALICYLATES | Fruit | 0.8 | 60.0 | -0.16469419114376535 | -- |
| 0 | SUGAR | Fruit | 60100.0 | 166000.0 | -0.15008461399428302 | -- |
| 2 | CAMPESTEROL | Fruit | 10.0 | 60.0 | -0.14986892201478846 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 102 | CAFFEIC-ACID | Fruit | 85.0 | 1270.0 | -0.10378621224302456 | -- |
| 6 | IRON | Fruit | 1.1 | 123.0 | -0.039580333705947705 | -- |
| 53 | BETA-CAROTENE | Fruit | 0.0 | 76.0 | -0.0038939984397263717 | -- |

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Reference Citation |
|------------------|-----------------|------------|----------|----------|----------------------|--|
| 2 | ARSENIC | Fruit | 0.001 | 0.43 | 0.014133429185321438 | -- |
| 8 | FRUCTOSE | Fruit | 50100.0 | 60800.0 | 0.04916971831634761 | -- |
| 47 | BETA-SITOSTEROL | Fruit | 110.0 | 660.0 | 0.07292039240169416 | Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.) |
| 1 | MERCURY | Fruit | 0.0 | 0.02 | 0.10095423065636192 | -- |
| 77 | ZINC | Fruit | 0.0 | 35.0 | 0.1413570623516533 | -- |
| 24 | PECTIN | Fruit | 1400.0 | 66585.0 | 0.16029071562128944 | -- |
| 0 | WATER | Fruit | 809000.0 | 896000.0 | 0.5453564376102144 | -- |
| 0 | FLUORINE | Fruit | 0.1 | 2.1 | 0.7378739376517985 | ACTA AGRIC SCAND SUPPL 22: 1980 |
| 0 | CARBOHYDRATES | Fruit | 152250.0 | 948550.0 | 0.8859136568099041 | -- |
| 1 | PROCYANIDIN-B-2 | Leaf | 150.0 | 900.0 | 0.9999999999999998 | -- |
| 176 | QUERCETIN | Pericarp | 58.0 | 263.0 | 1.0 | Pizzorno, J.E. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (Looseleaf). |
| 8 | PHLORIDZIN | Leaf | 54000.0 | 140000.0 | 1.0 | -- |
| 20 | BENZOIC-ACID | Leaf | 98.0 | 710.0 | 1.3479809099758226 | -- |
| 4 | BORON | Fruit | 1.0 | 110.0 | 1.410811087811246 | -- |
| 61 | FERULIC-ACID | Fruit | 4.0 | 95.0 | 1.7162326606420661 | -- |
| 44 | QUERCITRIN | Leaf | 600.0 | 9015.0 | 1.7298124819748746 | -- |
| 25 | P-COUMARIC-ACID | Fruit | 15.0 | 460.0 | 1.836295249622603 | -- |
| 0 | MEVALONIC-ACID | Fruit | 30.0 | 36.0 | 1.9898059802462824 | -- |
| 0 | LEAD | Fruit | 0.002 | 64.0 | 3.294104898397132 | -- |