

# **USDA Database for the Flavonoid Content of Selected Foods**

## **Release 3.3**

**Prepared by**

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## Release History

- Release 1 (March 2003) – Flavonoid content of 225 foods items.
- Release 2 (August 2006) – Flavonoid content of 392 foods items.
- Release 2.1 (January 2007) – Flavonoid content of 385 foods [Eliminated the unusually high gallic acid values from Cacao (NDB No. 97034, Nutrient No. 794) and all the data for the chocolate items (NDB No. 99388, 99389, 99390, 99391, 99392, 99407, and 99408)].
- Release 3 (September 2011) – Flavonoid content of 500 food items
- Release 3.1 (June 2013) – Flavonoid content of 506 food items. Data were added for several different types of table olives and olive oils plus additional data on blueberries (rabbiteye). A number of values were revised, due to errors arising from the use of incorrect conversion factors used or the failure to convert some values to the appropriate units. More detail is provided in the documentation (p.1)

A table of “Individual Data” as reported in the original references is also released along with the Release 3.1.

- Release 3.1 (December 2013) – The description for raw cowpeas was changed to reflect the fact that the food was immature cowpeas and not mature cowpeas. As a result, the NDB No. 16062 was changed to 11191 and the food group was changed accordingly.

The description for cooked eggplant was changed to reflect the fact that the sample analyzed was actually long eggplant. Since this is a different type of eggplant, the NDB No. was changed from 11210 to 99661.

The description for cooked mustard greens was changed to reflect the fact that sample analyzed was actually black mustard greens. Since this is a different type of mustard greens, the NDB No. was changed from 11271 to 99662.

NDB No. 99401, Olive leaves, was removed.

- Release 3.2 (September 2015) - Updated delphinidin value for raw bananas (NDB No. 09040).

November 2015 revision - Changed name of NDB No. 16108 to “Soybeans, black, mature seeds, raw” to match the source description. This also required the NDB No. to be changed to 99686.

- Release 3.3 (March 2018) – Updated and new data for cranberry products; added new data for raspberry products.

**Suggested Citation:**

Haytowitz, D.B., Wu, X., Bhagwat, S. 2018. USDA Database for the Flavonoid Content of Selected Foods, Release 3.3. U.S. Department of Agriculture, Agricultural Research Service. Nutrient Data Laboratory Home Page: <http://www.ars.usda.gov/nutrientdata/flav>

## **Documentation for the USDA Database for Flavonoid Content of Selected foods, Release 3.3 (2018)**

The scientific community continues to take interest in the types and levels of flavonoids in foods because of the consistent evidence regarding beneficial health effects of dietary flavonoids. Flavonoids, particularly flavan-3-ols and proanthocyanidins, have been associated with reduction in the risk of cardiovascular disease by modulating various mechanisms of primary and secondary prevention (Schroeter et al., 2010). Anthocyanidins may also protect LDL cholesterol oxidation through their high antioxidant activity (Erdman et al., 2007). Evidence supporting cancer prevention effects of flavonoids is limited and conflicting, but some organ-specific associations have been reported. Lam et al., (2010) observed an inverse relationship between quercetin-rich food intake and lung cancer in a case-control study in Lombardi region of Italy, while Ekström et al., (2011) observed protection against stomach cancer with high intakes of quercetin in a population study in Sweden. A large volume of analytical data on food flavonoids has been published since the second release of the “USDA Database for the Flavonoid Content of Selected Foods” in January 2007, on Nutrient Data Laboratory’s (NDL) Web site: <http://www.ars.usda.gov/nutrientdata>.

Relevant articles published between the second release and the end of 2010 were retrieved and reviewed. One hundred new articles containing data on 26 selected commonly occurring compounds in the five subclasses of the dietary flavonoids were retained for critical evaluation of data quality. The additional valid analytical data were merged with the data included in the updated database released in 2007. After review and statistical analysis, approximately 115 new foods were added into the Release 3 of the updated database. Values were added for additional compounds for some foods published in the earlier database. The updated database included source documents citing research conducted in the U.S. and also in 50 other countries.

Release 3.2 of the flavonoids database contains data on some new food items - different kinds of table olives and olive oils data from seven articles and additional data on blueberries (rabbit eye) from one article. A number of corrections were also made due to the use of the wrong conversion factors or failure to convert some values reported as mg/kg or mg/L into mg/100g (two articles on wine and one on orange juice). The changes in values due to incorrect conversion factors were very minor and may not have any impact on the final means of the aggregated data. Similarly changes due to unit conversion did not affect the mean values for wines greatly due to large quantity of data available on wines. The mean value for hesperetin in orange juice, raw (NDB 09206), changed considerably and was reduced to 11.95 mg/100g from 20.39 mg/100g.

Isoflavones are not included in this database. A separate database, the “USDA-Iowa State University Database on the Isoflavone Content of Foods” first released in 1999 was updated in 2008 and released on the NDL web site. Similarly, proanthocyanidins are not included in this database because a separate database, the “USDA Database for the Proanthocyanidin Content of Selected Foods” was released on NDL’s web site in August 2004 and updated in 2015.

### **Subclasses of flavonoids and selected compounds**

The database contains values for 506 food items and for 26 predominant dietary flavonoids that belong to the five subclasses reported below:

- FLAVONOLS: Isorhamnetin, Kaempferol, Myricetin, Quercetin (Figure 1)
- FLAVONES: Apigenin, Luteolin (Figure 2)
- FLAVANONES: Eriodictyol, Hesperetin, Naringenin (Figure 3)
- FLAVAN-3-OLS: (+)-Catechin, (+)-Gallocatechin, (-)-Epicatechin, (-)-Epigallocatechin, (-)-Epicatechin 3-gallate, (-)-Epigallocatechin 3-gallate (Figure 4), Theaflavin, Theaflavin 3-gallate, Theaflavin 3'-gallate, Theaflavin 3,3'-digallate (Figure 5), Thearubigins
- ANTHOCYANIDINS: Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin (Figure 6)

### **Methods and Procedures used to generate the database**

Only those data generated by acceptable analytical procedures are included. Acceptable procedures are defined as those which lead to good separation of flavonoid compounds (e.g., column chromatography or high-performance liquid chromatography [HPLC], capillary zone electrophoresis, micellar electrokinetic capillary chromatography). Studies that contained data generated by thin layer or paper chromatography, radioimmunoassay (RIA), pH differential methods or only spectrophotometric quantitation were not retained due to the lack of specificity of these methods. Similarly, values for total flavonoids or only the totals by subclass of flavonoids were not included, as the objective was to collect values for specific flavonoid compounds.

Most of the compounds in food are present in glycosylated forms except for the flavan-3-ols (catechins and theaflavins) which are present either in free forms or as gallic acid esters (e.g., in tea). However, some of the analytical procedures convert the glycosides into aglycones and thus results are reported as aglycones. Therefore, where the values for individual glycosides were determined, USDA scientists converted the glycoside values into aglycone forms using conversion factors based on the molecular weight of the specific compounds to make data consistent across the database (see example below, p. 5). The catechins and epicatechins which were reported as gallic acid esters,

such as epicatechin gallate, epigallocatechin gallate, etc., are included as such without any conversions.

Mean values in the database are reported as mg/100g of fresh weight of edible portion of food. Values for beverages were adjusted by their respective specific gravities if reported on liquid basis (e.g. mg/ml) to convert them on weight basis (mg/100g). Analytical reports typically provided data for tea as infusions. The practice of preparing tea infusions varies in different countries and according to individual preferences. Therefore, it is difficult to compare flavonoid data for brewed teas obtained from different sources. Catechin and flavonol contents in tea infusions increased approximately in a linear way relative to the amount of tea leaves used for brewing. Therefore, all infusion values were standardized to 1% infusion (1g tea leaves/100ml boiling water). These values were calculated using the weight of the tea powder in the tea bag (or loose tea leaves) used to make the infusion. Adjustment for brewing time was not undertaken as a majority of tea flavonoids are extracted into the infusion after only short brewing times and do not increase substantially with extended brewing times (Arts et al., 2000; Hertog et al., 1993). Values for tea are given as mg/100g (100ml) of tea infusions (as consumed) and are equivalent to one gram of dry tea.

If a value was reported as “Trace”, that value was calculated by multiplying the LOQ (Limit of Quantitation) by 0.71 (Mangels et al., 1993) if the LOQ was available. A zero value reported in the database is a true zero (below the limit of detection), indicating that authors attempted to measure the compound in that food and did not find it. The lack of a value for a particular flavonoid in a food in the database does not imply a zero value, but only that data were unavailable. The table of analytical values contains values for only those compounds and foods that were available in the literature at the time of this survey; it does not mean that other classes of compounds are not present in that particular food. Researchers rarely analyze compounds in all the subclasses in a single study

Considerable variation was observed in the flavonoid content of specific foods. Flavonoid compounds are often produced by plants in response to various environmental stresses. Stress may be caused by diseases, insects, climate, ultraviolet radiation, etc. (Dixon and Palva, 1995; Winkel-Shirley, 2002). Other sources of variability can include cultivar, growing location, agricultural practices, processing and storage conditions, and preparation methods (Amiot et al., 1995; Häkkinen et al.; 2000, Patil et al., 1995; van der Sluis et al., 2001).

Furthermore, users of the data should exercise caution when comparing flavonoid values for different forms of a food, such as for raw and cooked forms of the same food. As with any nutrient database, values for different forms of the food may be collected from different sources. If a value in the cooked food is less than in the raw food, it does not necessarily mean that the particular flavonoid was reduced by cooking. This kind of comparison is valid only when paired raw and cooked samples are analyzed to estimate values for these forms.

## Data Evaluation

The data for each compound were evaluated for quality using the procedures developed by scientists at the NDL (Holden et al., 2002, 2005) referred to as NDL's Data Quality Evaluation System (DQES). Five categories of documentation were evaluated: sampling plan, sample handling, number of samples, analytical method, and analytical quality control. NDL modified the criteria for the sampling plan rating at the aggregation stage to accommodate the international characteristic of this database. For aggregated data which included data from countries other than the United States, the number of countries replaced the number of regions within a country. The documentation presented in each reviewed paper was evaluated for the information within each category, which then received a rating ranging from 0 to 20 points. The ratings for each of the five categories are summed to yield a quality index (QI) with the maximum possible score of 100 points. A confidence code (CC) is derived from the QI and is an indicator of the relative quality of the data and the reliability of a given mean (Table 1). The CC is assigned as follows:

Table 1.—Confidence Codes

QI	CC
75-100	A
74-50	B
49-25	C
<25	D

The data were aggregated where possible to match the food descriptions in the USDA National Nutrient Database for Standard Reference (SR). Foods are arranged by "Food Group" to make the accompanying table easier to use. Each food has a NDB number, a five digit numerical code used in the SR, if the description matches to a food in the SR. As the data came from various sources, both within the United States and from other countries, there are a number of foods which are not included in the SR database. In these cases, a temporary NDB number was assigned. These numbers begin with "99" or "97" and are not necessarily unique to this table, as they may have been used in other special interest databases produced by NDL. Subsequently, the mean value (mg/100g), standard error of the mean (SEM), minimum (Min.), and maximum (Max.) values were determined for each food and flavonoid. Mean values were weighted to account for the different number of samples among the various studies used. The weighted mean was, in turn, used to calculate the standard error based on the total number of samples in each aggregated food. These values, along with the CC and sources of data, are given in the table. The CC provides a relative indication of the quality of each estimate for food and of the specific compounds in individual foods.

## Flavonoid Individual Data Table

Although aglycones of the flavonoids are considered to have beneficial health effects, absorption and bioavailability of flavonoids depends not only on the glycosylation but also on the nature of the glycoside (Hollman et al., 1995; Morand et al., 2000). The NDL scientists decided to release the individual data points as originally reported in the articles that were used to get mean aglycone values for the database, in a separate table. Flavonoids are reported as aglycones and/or glycosides depending on the analytical method used. The individual data table contains the information on the NDB number or a temporary number assigned exclusively for this database, reference number (source of data), food description, analytical method, name of the flavonoid compound, reported value of the compound, unit of measurement as reported in the published article, fresh/dry weight basis, various conversion factors used (to convert glycosides to aglycones, moisture factors to convert dry weight values to fresh weight, specific gravity factors to convert values from liquid measures to gram weight basis), and aglycone values as mg/100g fresh weight for every compound analyzed/food. The column heading "LT" means less than (<) Limit of Detection or Limit of Quantitation (LOD/LOQ). The only exception is the reference number R022 (Berhow et al., 1998). The columns for reported values (Rptd\_CmpdVal) and all the conversion factors for this reference are blank, although values calculated for aglycones (Cmpd\_Val) are reported in the designated column. This table is available in Release 3.2 of the database.

Examples of calculating mg/100g Fresh Weight (FW) aglycone values using some conversion factors:

$$\text{CmpdVal (Aglycone)} = \text{Rptd\_CmpdVal (glycoside)} * \text{Conv\_Factor\_G}$$

Where:

Rptd\_CmpdVal (glycoside) = the reported value in the source document  
For strawberries, the reported value for Pelargonidin 3-glucoside is  
726.14 µg/g

CmpdVal (Aglycone) = the aglycone value used in the database to  
calculate mean values

Conv\_Factor\_G = the factor used to convert glycosides to aglycones,  
calculated by taking the molecular weight of the aglycone divided by the  
molecular weight of the glycoside. For this example,

the molecular weight of Pelargonidin (aglycone) = 272, and

the molecular weight of Pelargonidin 3-glucoside = 434

so  $272/434 = 0.6267$

It is also necessary to convert from the units reported in the source document, in this case, µg/g to the standard units of the database, mg/100g. Therefore, the factor in this example = 0.1. This factor is not



listed in a separate field in the Flavonoid Individual Data File, but is used in the calculations.

So using this formula for the above example:

$$\text{Pelargonidin mg/100g} = 726.14 \times 0.6267 \times 0.1 = 45.51$$

Another example, where specific gravity is used:

$$\text{CmpdVal (Aglycone)} = \text{Rptd\_CmpdVal (glycoside)} * \text{Conv\_Factor\_G} / \text{Conv\_Factor\_SpG}$$

Where:

Rptd\_CmpdVal (glycoside) = the reported value in the source document  
For orange juice, the reported value for Hesperidin (Hesperetin 7-rutinoside) = 656.00 mg/L,

CmpdVal (Aglycone) = the aglycone value used in the database to calculate mean values

Conv\_Factor\_G = the factor used to convert glycosides to aglycones, calculated by taking the molecular weight of the aglycone divided by the molecular weight of the glycoside. For this example,

the molecular weight of Hesperetin (aglycone) = 302, and

the molecular weight of Hesperidin (Hesperetin 7-rutinoside) = 611

so  $302/611 = 0.4943$

Conv\_Factor\_SpGr = factor to convert amount per L to amount per 100 g.

For a liquid with a Brix of 11.9, the factor = 1.048

Again, it is necessary to convert from the reported units to those used in the database. In this case, converting from L to 100 g, the factor is 0.1

So using this formula for the above example:

$$\text{Hesperetin mg/100g} = 656.00 \times 0.4943 \times 0.1 / 1.048 = 30.94$$

## Sources of Data

A complete list of the data sources from which the flavonoid values in the database were obtained is provided and corresponds to the "References" column in the data tables. Published references list authors, title, journal citation, as well as foods and flavonoids analyzed. Sources of unpublished data are also provided.

## Format of the Tables

The USDA Database for the Flavonoid Content of Selected Foods is presented as a PDF file. This table contains values for individual flavonoid compounds for **512** foods. A user will need the Adobe® Acrobat® reader to view the report of the database. For the convenience of the user, the flavonoid database has also been imported into a Microsoft® Access database (FLAV\_R03-1.mdb). This database follows the same structure as that used for SR thus allowing users to access the database in a form compatible with other programs. Links indicating the relationships among the files are presented with each file.

The tables and fields in the Microsoft® Access database are as follows:

**Food Description File** (file name = FOOD\_DES). This file (Table 2) contains the descriptions of the food items. For those items in the SR\* additional information (e.g., common names, percentage, and description of refuse) can be obtained by linking this table to the corresponding table in SR.

- Links to the Food Group Description file by FdGrp\_Cd
- Links to the Flavonoid Data file by NDB No.
- Links to the Flavonoid Detail file by NDB No.

**Table 2.—Food Description File Format**

Field Name	Description
NDB_No <sup>†</sup>	5-Digit Nutrient Databank number that uniquely identifies a food item. Foods in the USDA Database on the Flavonoid content of Foods which do not have corresponding entries in SR* are assigned NDB Nos. starting with either '99' or '97'.
FdGrp_Cd	4-digit code indicating food group to which the food item belongs
Long_Desc	Description of the food item

\* For more information on SR, see the NDL Web site (<http://www.ars.usda.gov/nutrientdata>) or contact the Nutrient Data Laboratory, 10300 Baltimore Avenue, Bldg. 005, Rm. 107, BARC-WEST, Beltsville, MD 20705. Tel. No. 301-504-0630, e-mail: [ndlinfo@ars.usda.gov](mailto:ndlinfo@ars.usda.gov).

<sup>†</sup>Primary key for the food description file

**Food Group Description File** (file name = FD\_GROUP). This file (Table 3) contains a list of food groups used in the flavonoid database and their descriptions.

- Links to the Food Description file by FdGrp\_Cd

**Table 3.—Food Group Description File Format**

Field Name	Description
FdGrp_Cd*	4-digit code identifying a food group. Only the first two digits are currently assigned. All of the food groups in SR are not used in the flavonoid database.
FdGrp_Desc	Name of food group

\* Primary key for the Food Group Description file.

**Flavonoid Data File** (file name = FLAV\_DAT). This file (Table 4) contains the flavonoid values and information about the values, including statistical information, confidence codes, and sources of data.

- Links to the Food Description file by NDB No.
- Links to the Nutrient Definition file by Nutr. No.
- Links to the Sources of Data file by DataSrc\_ID through the Data Source Link file

**Table 4.—Flavonoid Data File Format**

Field Name	Description
NDB No.*	5-Digit Nutrient Databank number
Nutr_No*	Unique 3-digit identifier code for each flavonoid compound
Flav_Val	The flavonoid mean value (mg/100 g) edible portion
SE	Standard error of the mean; null if could not be calculated
n	Number of data points used in calculating the mean value and SE
Min	Minimum value (mg/100 g) from data points used
Max	Maximum value (mg/100 g) from data points used
CC	Confidence Code, designated as A, B, C, or D as determined through the DQES

\* Primary keys for Flavonoid Data file.

**Nutrient Definition File** (file name = NUTR\_DEF). This file (Table 5) contains the nutrient number and the description of the flavonoids.

- Links to the Nutrient Data file by Nutr\_No.

**Table 5.—Nutrient Definition File Format**

<b>Field Name</b>	<b>Description</b>
Nutr_No*	Unique 3-digit identifier code for each flavonoid
Flav_Class	The subclass of flavonoids to which the individual flavonoid belongs
Description	Name of the flavonoid
Unit	Units of measure (e.g. mg)

\* Primary key for Nutrient Definition file.

**Sources of Data Link File** (file name = DATSRCLN). This file (Table 6) is used to link the Flavonoid Data file with the Sources of Data file. It is needed to resolve the many-to-many relationship between the two files.

- Links to the Flavonoid Data file by NDB No. and Nutr\_No.
- Links to the Sources of Data file by DataSrc\_ID.

**Table 6.—Sources of Data Link File Format**

<b>Field Name</b>	<b>Description</b>
NDB_No*	5-digit Nutrient Databank number
Nutr_No*	Unique 3-digit identifier code for a nutrient
DataSrc_ID*	Unique ID identifying the reference/source. This is the reference number from the Sources of Data, preceded with an “R”.

\* Primary keys for the Sources of Data Link file.

**Sources of Data File** (file name = DATA\_SRC). This file (Table 7) provides a citation to the DataSrc\_ID in the Sources of Data Link file.

- Links to Flavonoid Data file by NDB No. through the Sources of Data Link file

**Table 7.—Sources of Data File Format**

<b>Field Name</b>	<b>Description</b>
DataSrc_ID*	Unique number identifying the reference/source. This is the reference number from the Sources of Data, preceded with an “R”.
Authors	List of authors for a journal article or name of sponsoring organization for other documents
Title	Title of article or name of document, such as a report from a company or trade association
Year	Year article or document was published
Journal	Name of the journal in which the article was published
Vol	Volume number for journal articles, books, or reports
Start_Page	Starting page number of article/document
End_Page	Ending page number of article/document

\* Primary key for the Sources of Data file.

**Flavonoid Individual Data File** (file name – FLAV\_IND). The Flavonoid Individual Data file (Table 8) will contain the individual data records aggregated to calculate the mean values in the Flavonoid Data file.

- Links to the Flavonoid Data File through the NDB\_No.
- Links to the Sources of Data File through the DataSrc\_ID

**Table 8 –Flavonoid Individual Data File Format**

<b>Field Name</b>	<b>Description</b>
NDB No.*	5-Digit Nutrient Databank number. Can be linked to the Food Description file, to access the name used in the database for the aggregated data
DataSrc_ID*	A unique ID identifying the data source document. The full citation for each data source can be accessed by linking to the “Sources of Data” file through the “Source of Data Link” file. This is the reference number from the Sources of Data, preceded with an “R”.
Food_No*	A unique identifier indicating a specific food item within the data source document

Food_Indiv_Desc	The description of the specific food item used in the data source document
Method	The analytical method used to quantify the flavonoid content of the specified food
Cmpd_Name	Name of the compound.
Rptd_CmpdVal	The flavonoid value given in the original data source. If individual glycosides were reported they are given here as well.
Rptd_StdDev	The standard deviation of the mean given in the original data source.
Num_Data_Pts	The number of data points given in the data source
LT	Indicates that Rptd_CmpdVal was reported as either below the level of detection or quantification or as "trace"
Fresh_Dry_Wt	Indicates the Rptd_CmpdVal was reported on either the fresh weight or dry weight basis.
Rptd_Units	Units reported in the original data source.
Quant_Std	Quantification Standard
Conv_Factor_G	Factor used to convert individual glycosides to the aglycone form
Conv_Factor_M	Factor used to convert a value from the dry-weight basis to the fresh weight basis
Conv_Factor_SpGr	Factor used to convert values reported on a liquid volume to mg/100 g using the specific gravity
Cmpd_Val	Converted value used in the calculation of the mean values reported in the Flavonoid Data File (FLAV_DAT), (mg/100 g aglycone) edible portion. Gallate derivatives of catechin and epicatechin are reported as conjugates
Cmpd_StdDev	Standard deviation of the mean, with all conversion the same as those done to the Cmpd_Val ; null if not provided or could not be calculated

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\* Primary keys for Flavonoid Individual Data file.

## References Cited in the Documentation

- Amiot et al.**, J. Agric. Food Chem., 1995, 43, 1132-1137  
**Arts et al.**, J. Agric. Food Chem., 2000, 48(5), 1752-1757  
**Dixon and Palva**, The Plant Cell, 1995, 7, 1085-1097  
**Erdman, et al.**, J. Nutr., 2007, 137, 718S-737S.  
**Ekström et al.**, Annals of Oncology, 2011, 22, 438-443  
**Häkkinen et al.**, J. Agric. Food Chem., 2000, 48, 2960-2965  
**Hertog et al.**, J. Agric. Food Chem., 1993, 41(8), 1242-1246  
**Holden et al.**, J. Food Comp. Anal., 2005, 18, 829-884.  
**Holden et al.**, J. Food Comp. Anal., 2002, 15(4), 339-348  
**Hollman et al.**, Am. J. Clin. Nutr., 1995, 62, 1276-1282  
**Lam et al.**, Carcinogenesis, 2010, 31, 634-642  
**Mangels et al.**, J. Am. Diet. Assoc., 1993, 93, 284-296.  
**Morand et al.**, BioFactors, 2000, 12, 169-174.  
**Patil et al.**, New Phytol., 1995, 130, 340-355  
**Schroeter et al.**, Mol. Aspects Med., 2010, 31, 546-557  
**Van der Sluis et al.**, J. Agric. Food Chem., 2001, 49, 3606-3613  
**Winkel-Shirley, B.**, Current Opinion in Plant Biology, 2002, 5, 218-223

Figure 1. Chemical structure of flavonols (quercetin, kaempferol, myricetin, isorhamnetin)

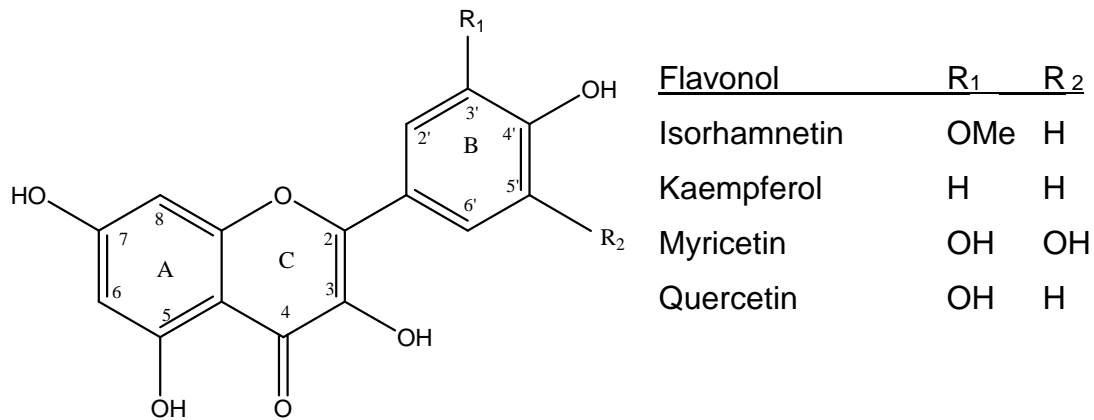


Figure 2. Chemical structure of flavones (luteolin, apigenin)

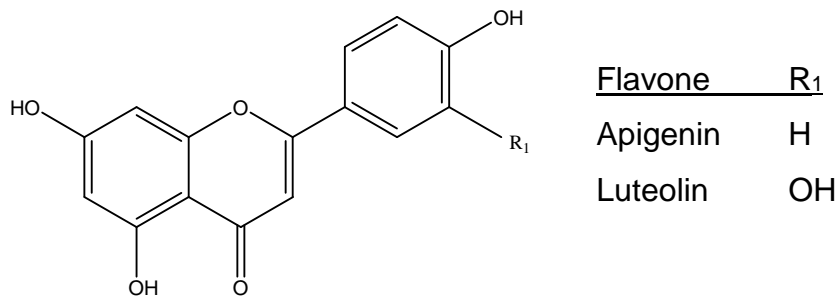


Figure 3. Chemical structure of flavanones (eriodictyol, hesperetin, naringenin).

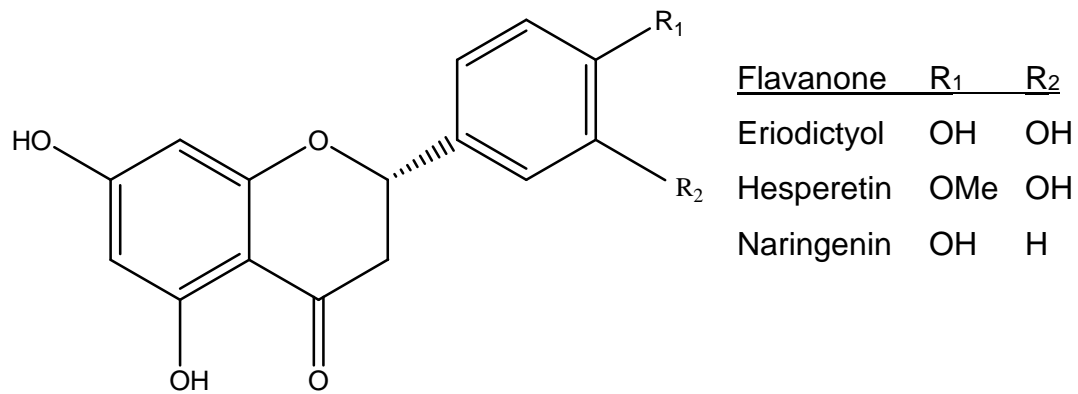
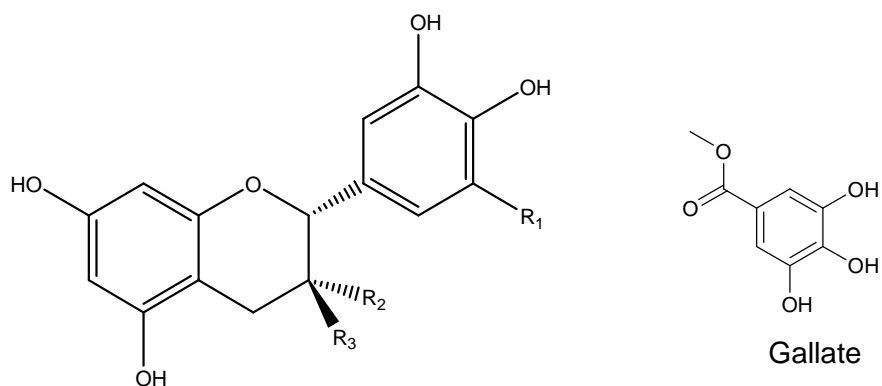


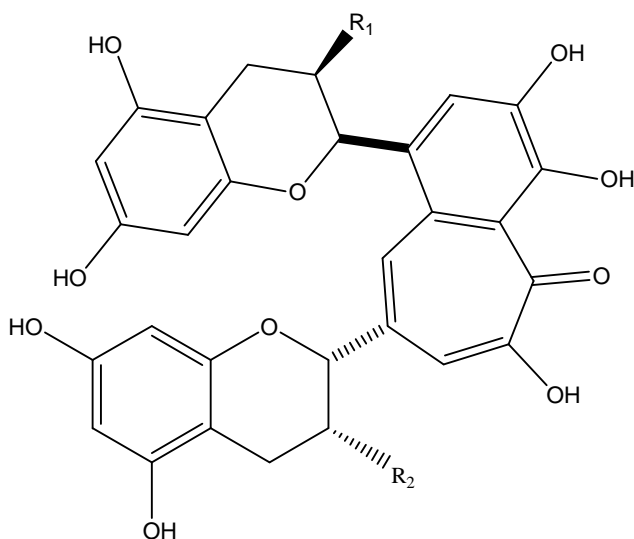


Figure 4. Structure of flavan-3-ols (catechins and epicatechins).



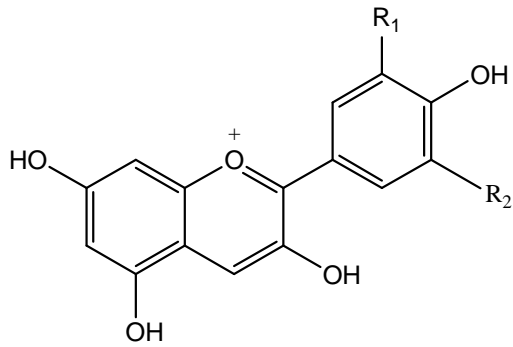
Flavan-3-ol	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>
(+)-Catechin (C)	H	H	OH
(+)-Catechin-3-gallate (CG)	H	H	Gallate
(-)-Epicatechin (EC)	H	OH	H
(-)-Epicatechin-3-gallate (ECG)	H	Gallate	H
(-)-Epigallocatechin (EGC)	OH	OH	H
(-)-Epigallocatechin-3-gallate (EGCG)	OH	Gallate	H
(+)-Gallocatechin (GC)	OH	H	OH
(+)-Gallocatechin-3-gallate (GCG)	OH	H	Gallate

Figure 5. Chemical structure of theaflavins.



Theaflavin	R <sub>1</sub>	R <sub>2</sub>
Theaflavin	OH	OH
Theaflavin-3-gallate	Gallate	OH
Theaflavin-3'-gallate	OH	Gallate
Theaflavin-3,3'-digallate	Gallate	Gallate

Figure 6. Chemical structure of anthocyanidins (cyanidin, delphinidin, malvidin, pelargonidin, peonidin, petunidin).



<u>Anthocyanidin</u>	<u>R<sub>1</sub></u>	<u>R<sub>2</sub></u>
Cyanidin	H	OH
Delphinidin	OH	OH
Malvidin	OMe	OMe
Pelargonidin	H	H
Peonidin	H	OMe
Petunidin	OH	OMe

USDA Database for the Flavonoid Content of Selected Foods, Release 3.3 (2018)

(For mean, standard error, min and max, units = mg/100g, edible portion)

NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
<b>01 – Dairy and Egg Products</b>										
01103	Milk, chocolate, fluid, commercial, reduced fat, with added vitamin A and vitamin D	Flavan-3-ols	(-)-Epicatechin	0.26	2	0.21	0.06	0.47	B	16
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	16
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	16
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	16
			(+)-Catechin	0.82	2	0.71	0.11	1.53	B	16
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	16
		Flavones	Apigenin	0.00	1		0.00	0.00	C	115
			Luteolin	0.00	1		0.00	0.00	C	115
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	115
			Myricetin	0.05	1		0.05	0.05	C	115
Quercetin	0.12		1		0.12	0.12	C	115		
<b>02 – Spices and Herbs</b>										
02044	Basil, fresh ( <i>Ocimum basilicum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
		Flavones	Apigenin	0.00	1		0.00	0.00	C	133
			Luteolin	0.00	1		0.00	0.00	C	133
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133
			Kaempferol	0.00	1		0.00	0.00	C	133
Quercetin	0.00		1		0.00	0.00	C	133		
02054	Capers, canned ( <i>Capparis spinosa</i> )	Flavonols	Kaempferol	131.34	20	12.13	59.49	247.97	B	98, 125
			Quercetin	172.55	20	26.49	45.05	519.85	B	98, 125
99360	Capers, raw	Flavonols	Kaempferol	259.19	3	27.06	214.99	308.33	C	98
			Quercetin	233.84	3	50.31	149.31	323.38	C	98
99379	Chives, Chinese, raw	Flavonols	Kaempferol	17.11	6	6.23	15.07	19.16	C	238
02045	Dill weed, fresh ( <i>Anethum graveolens</i> )	Flavanones	Hesperetin	0.00	2		0.00	0.00	C	133
		Flavones	Apigenin	0.00	3		0.00	0.00	C	133, 170
			Luteolin	0.00	3		0.00	0.00	C	133, 170
		Flavonols	Isorhamnetin	43.50	2	28.50	15.00	72.00	C	133
			Kaempferol	13.33	3	7.06	0.00	24.00	C	133, 170
			Myricetin	0.70	1		0.70	0.70	C	170
Quercetin	55.15		3	29.82	7.45	110.00	C	133, 170		
99104	Licorice root	Flavonols	Quercetin	0.00	1		0.00	0.00	D	112
99115	Oregano, fresh	Flavanones	Hesperetin	0.00	2		0.00	0.00	C	133
		Flavones	Apigenin	2.57	3	0.72	1.70	4.00	C	133, 253
			Luteolin	1.00	3	1.00	0.00	3.00	C	133, 253

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(For mean, standard error, min and max, units = mg/100g, edible portion)

NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Isorhamnetin	0.00	2		0.00	0.00	C	133
			Kaempferol	0.00	3		0.00	0.00	C	133, 253
			Myricetin	2.10	1		2.10	2.10	D	253
			Quercetin	7.30	3	7.30	0.00	21.90	C	133, 253
99646	Oregano, Mexican, dried	Flavanones	Eriodictyol	85.33	3	6.69	72.00	93.00	C	164
			Naringenin	372.00	3	24.38	335.00	418.00	C	164
		Flavones	Apigenin	17.71	3	1.10	15.63	19.38	C	164
			Luteolin	1028.75	3	68.77	901.29	1137.22	C	164
		Flavonols	Quercetin	42.00	3	4.04	34.00	47.00	C	164
99380	Oregano, Mexican, fresh	Flavanones	Naringenin	0.00	1		0.00	0.00	D	308
		Flavones	Apigenin	0.00	1		0.00	0.00	D	308
			Luteolin	25.10	1		25.10	25.10	D	308
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	308
Quercetin	0.00		1		0.00	0.00	D	308		
02064	Peppermint, fresh ( <i>Mentha x piperita</i> L. <i>nothosubsp. piperita</i> )	Flavanones	Eriodictyol	30.92	28	2.57	12.27	54.53	C	13
			Hesperetin	10.16	30	0.98	0.00	21.94	C	13, 133
		Flavones	Apigenin	5.39	30	3.28	0.24	99.00	C	13, 133
			Luteolin	12.66	30	1.17	5.49	42.00	C	13, 133
		Flavonols	Isorhamnetin	0.00	2		0.00	0.00	C	133
			Kaempferol	0.00	2		0.00	0.00	C	133
Quercetin	0.00		2		0.00	0.00	C	133		
02063	Rosemary, fresh ( <i>Rosmarinus officinalis</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
			Naringenin	24.86	1		24.86	24.86	C	308
		Flavones	Apigenin	0.55	2	0.55	0.00	1.10	C	133, 308
			Luteolin	2.00	2	2.00	0.00	4.00	C	133, 308
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133
			Kaempferol	0.00	2		0.00	0.00	C	133, 308
Quercetin	0.00		2		0.00	0.00	C	133, 308		
99116	Sage, fresh	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
			Naringenin	0.00	1		0.00	0.00	C	308
		Flavones	Apigenin	1.20	2	1.20	0.00	2.40	C	133, 308
			Luteolin	16.70	2	16.70	0.00	33.40	C	133, 308
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133
Kaempferol	0.00		2		0.00	0.00	C	133, 308		
Quercetin	0.00		2		0.00	0.00	C	133, 308		
02007	Spices, celery seed ( <i>Apium</i> )	Flavones	Apigenin	78.65	1		78.65	78.65	C	163

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	<i>graveolens</i> )		Luteolin	762.40	1		762.40	762.40	C	163
02023	Spices, marjoram, dried ( <i>Origanum majorana</i> )	Flavanones	Naringenin	0.00	1		0.00	0.00	D	308
		Flavones	Apigenin	3.50	1		3.50	3.50	D	308
			Luteolin	0.00	1		0.00	0.00	D	308
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	308
			Quercetin	0.00	1		0.00	0.00	D	308
02029	Spices, parsley, dried ( <i>Petroselinum crispum</i> )	Flavones	Apigenin	4503.50	5	2254.33	1774.60	13506.22	B	124, 179
			Luteolin	19.75	1		19.75	19.75	B	179
		Flavonols	Isorhamnetin	331.24	1		331.24	331.24	B	179
			Kaempferol	0.00	1		0.00	0.00	B	179
			Quercetin	0.00	4		0.00	0.00	C	124
02037	Spices, saffron ( <i>Crocus sativus</i> )	Flavonols	Kaempferol	205.48	12	49.23	146.75	318.35	B	39
99117	Tarragon, fresh	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
		Flavones	Apigenin	0.00	1		0.00	0.00	C	133
			Luteolin	1.00	1		1.00	1.00	C	133
		Flavonols	Isorhamnetin	5.00	1		5.00	5.00	C	133
			Kaempferol	11.00	1		11.00	11.00	C	133
		Quercetin	10.00	1		10.00	10.00	C	133	
02049	Thyme, fresh ( <i>Thymus vulgaris</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
			Naringenin	0.00	1		0.00	0.00	C	308
		Flavones	Apigenin	2.50	2	2.50	0.00	5.00	C	133, 308
			Luteolin	45.25	2	5.75	39.50	51.00	C	133, 308
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133
			Kaempferol	0.00	2		0.00	0.00	C	133, 308
			Quercetin	0.00	2		0.00	0.00	C	133, 308
99351	Vinegar, cider (Germany)	Flavan-3-ols	(-)-Epicatechin	0.82	2	0.28	0.54	1.10	C	6
			(+)-Catechin	4.85	2	0.95	3.90	5.80	C	6
		Flavonols	Quercetin	0.68	2	0.68	0.00	1.35	C	6
99109	Vinegar, wine, red	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	C	6
			Delphinidin	0.08	1		0.08	0.08	C	6
			Malvidin	0.43	1		0.43	0.43	C	6
			Peonidin	0.07	1		0.07	0.07	C	6
			Petunidin	0.08	1		0.08	0.08	C	6
		Flavan-3-ols	(-)-Epicatechin	2.20	1		2.20	2.20	C	6
99108	Vinegar, wine, white	Flavan-3-ols	(-)-Epicatechin	0.60	2	0.60	0.00	1.20	C	6

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(+)-Catechin	3.60	2	1.20	2.40	4.80	C	6
<b>04 – Fats and Oils</b>										
04053	Oil, olive, salad or cooking	Flavones	Apigenin	0.09	22	0.01	0.00	0.24	B	29, 57, 185, 305
			Luteolin	0.12	456	0.00	0.00	0.79	A	14, 29, 57, 93, 136, 185, 305
<b>06 – Soups, Sauces and Gravies</b>										
06931	Sauce, pasta, spaghetti/marinara, ready-to-serve	Flavonols	Kaempferol	0.01	3		0.01	0.01	C	260
			Quercetin	0.91	3		0.91	0.91	C	260
06159	Soup, tomato, canned, condensed	Flavonols	Kaempferol	0.00	3		0.00	0.00	C	260
			Quercetin	0.14	3		0.14	0.14	C	260
<b>09 – Fruits and Fruit Juices</b>										
99594	Acai, berries, purple, fresh	Anthocyanidins	Cyanidin	53.64	4	21.31	7.07	110.42	C	162
99595	Acai, berries, purple, frozen	Anthocyanidins	Cyanidin	61.94	6	20.95	23.75	161.74	C	162
99596	Acai, berries, white, frozen	Anthocyanidins	Cyanidin	0.48	1		0.48	0.48	C	162
99577	Acai, fruit pulp/skin, powder	Anthocyanidins	Cyanidin	200.96	1		200.96	200.96	C	244
			Peonidin	3.91	1		3.91	3.91	C	244
09001	Acerola, (west indian cherry), raw ( <i>Malpighia emarginata</i> )	Anthocyanidins	Cyanidin	15.71	2	5.18	10.53	20.89	C	54
			Pelargonidin	6.84	2	2.45	4.40	9.29	C	54
		Flavones	Apigenin	0.00	14		0.00	0.00	B	230
			Luteolin	0.00	14		0.00	0.00	B	230
		Flavonols	Kaempferol	1.05	14	0.26	0.90	1.20	B	230
			Myricetin	0.00	14		0.00	0.00	B	230
			Quercetin	4.74	14	1.16	4.10	5.30	B	230
99002	Apple, skin only	Anthocyanidins	Cyanidin	5.50	8	1.84	0.00	13.32	C	270
		Flavan-3-ols	(-)-Epicatechin	28.73	8	5.73	7.81	59.16	C	270
			(+)-Catechin	7.40	8	1.54	0.00	12.39	C	270
		Flavonols	Quercetin	19.36	8	1.04	14.76	23.49	C	270
09504	Apples, Fuji, raw, with skin	Anthocyanidins	Cyanidin	0.79	14	0.16	0.00	1.83	B	11, 85, 110, 283, 294
			Delphinidin	0.01	6	0.00	0.00	0.02	B	85, 110
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.01	6	0.00	0.00	0.02	B	85, 110
			Peonidin	0.00	4		0.00	0.00	B	110
			Petunidin	0.00	4		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	5.55	8	0.56	1.01	13.23	B	11, 110, 283
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin	1.14	4	0.49	0.22	2.51	B	110

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-)-Epigallocatechin 3-gallate	1.93	4	1.45	0.08	6.26	B	110
			(+)-Catechin	0.75	8	0.03	0.10	1.30	B	11, 110, 283
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	6	0.00	0.00	0.01	B	85, 110
			Luteolin	0.01	4	0.00	0.00	0.02	B	85, 110
		Flavonols	Myricetin	0.01	6	0.00	0.00	0.03	B	85, 110
Quercetin	2.35		10	0.29	0.00	4.91	B	11, 85, 110, 283		
09503	Apples, Gala, raw, with skin	Anthocyanidins	Cyanidin	1.22	19	0.14	0.00	2.86	B	11, 110, 276, 283, 294
			Delphinidin	0.00	4		0.00	0.00	B	110
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.00	4		0.00	0.00	B	110
			Peonidin	0.00	4		0.00	0.00	B	110
			Petunidin	0.00	4		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	6.04	15	1.09	1.11	10.40	B	11, 110, 276, 283
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	B	110
			(-)-Epigallocatechin	0.67	3	0.18	0.33	0.96	B	110
			(-)-Epigallocatechin 3-gallate	0.11	3	0.11	0.00	0.33	B	110
			(+)-Catechin	1.39	15	0.15	0.13	5.10	B	11, 110, 276, 283
			(+)-Gallocatechin	0.00	3		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	110
			Naringenin	0.00	3		0.00	0.00	B	110
		Flavones	Apigenin	0.00	5		0.00	0.00	B	110, 169
			Luteolin	0.00	3		0.00	0.00	B	110, 169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169
			Myricetin	0.00	5		0.00	0.00	B	110, 169
			Quercetin	3.80	17	0.41	2.73	10.10	B	11, 110, 169, 276, 283
		09501	Apples, Golden Delicious, raw, with skin	Anthocyanidins	Cyanidin	0.00	14		0.00	0.00
Delphinidin	0.00				4		0.00	0.00	B	110
Malvidin	0.00				4		0.00	0.00	B	110
Pelargonidin	0.00				4		0.00	0.00	B	110
Peonidin	0.00				4		0.00	0.00	B	110
Petunidin	0.00				4		0.00	0.00	B	110
Flavan-3-ols	(-)-Epicatechin			5.51	18	0.97	1.32	9.20	B	11, 110, 276, 283
	(-)-Epicatechin 3-gallate			0.00	4		0.00	0.00	B	110

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
			(-)-Epigallocatechin	0.35	4	0.20	0.00	0.71	B	110		
			(-)-Epigallocatechin 3-gallate	0.19	4	0.11	0.00	0.40	B	110		
			(+)-Catechin	0.59	18	0.06	0.00	1.60	B	11, 110, 276, 283		
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110		
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110		
			Naringenin	0.00	4		0.00	0.00	B	110		
		Flavones	Apigenin	0.00	4		0.00	0.00	B	110		
			Luteolin	0.00	2		0.00	0.00	B	110		
		Flavonols	Myricetin	0.00	4		0.00	0.00	B	110		
			Quercetin	3.69	18	0.73	1.57	4.65	B	11, 110, 276, 283		
97068	Apples, Golden Delicious, raw, without skin	Anthocyanidins	Delphinidin	0.00	2		0.00	0.00	B	110		
			Malvidin	0.00	2		0.00	0.00	B	110		
			Pelargonidin	0.00	2		0.00	0.00	B	110		
			Peonidin	0.00	2		0.00	0.00	B	110		
			Petunidin	0.00	2		0.00	0.00	B	110		
		Flavan-3-ols	(-)-Epicatechin	6.27	2	0.31	5.96	6.58	C	110, 270		
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	110		
			(-)-Epigallocatechin	1.52	1		1.52	1.52	B	110		
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	110		
			(+)-Catechin	2.77	2	2.66	0.11	5.43	C	110, 270		
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	110		
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	110		
			Naringenin	0.00	1		0.00	0.00	B	110		
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110		
			Luteolin	0.00	2		0.00	0.00	B	110		
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	110		
			Quercetin	0.51	3	0.04	0.43	0.56	B	110, 270		
		09502	Apples, Granny Smith, raw, with skin	Anthocyanidins	Delphinidin	0.00	4		0.00	0.00	B	110
					Malvidin	0.00	4		0.00	0.00	B	110
Pelargonidin	0.00				4		0.00	0.00	B	110		
Peonidin	0.00				4		0.00	0.00	B	110		
Petunidin	0.00				4		0.00	0.00	B	110		
Flavan-3-ols	(-)-Epicatechin			7.11	16	1.14	2.18	12.40	B	58, 110, 276, 283		
	(-)-Epicatechin 3-gallate			0.01	7	0.01	0.00	0.05	B	58, 110		
	(-)-Epigallocatechin			0.71	7	0.28	0.00	1.69	B	58, 110		
	(-)-Epigallocatechin 3-gallate			0.24	7	0.09	0.00	0.52	B	58, 110		



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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(+)-Catechin	1.87	16	0.28	0.30	3.60	B	58, 110, 276, 283
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	58, 110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	5		0.00	0.00	B	110, 239
			Luteolin	0.00	3		0.00	0.00	C	110, 239
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	239
			Myricetin	0.00	5		0.00	0.00	B	110, 239
			Quercetin	2.54	14	0.30	1.34	4.14	B	110, 239, 276, 283
09003	Apples, raw, with skin ( <i>Malus domestica</i> )	Anthocyanidins	Cyanidin	1.57	95	0.28	0.00	15.42	B	11, 85, 110, 276, 279, 283, 294
			Delphinidin	0.00	24	0.00	0.00	0.02	A	85, 110
			Malvidin	0.00	20		0.00	0.00	A	110
			Pelargonidin	0.00	24	0.00	0.00	0.02	A	85, 110
			Peonidin	0.02	22	0.01	0.00	0.28	A	110, 294
			Petunidin	0.00	20		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	7.53	150	0.44	0.80	19.16	B	11, 15, 58, 67, 110, 158, 269, 276, 279, 283
			(-)-Epicatechin 3-gallate	0.01	59	0.00	0.00	0.19	A	15, 58, 110
			(-)-Epigallocatechin	0.26	59	0.07	0.00	2.51	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.19	59	0.11	0.00	6.26	A	15, 58, 110
			(+)-Catechin	1.30	140	0.07	0.00	5.10	B	11, 15, 58, 67, 110, 269, 276, 283
			(+)-Gallocatechin	0.00	59		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	19		0.00	0.00	A	110
			Naringenin	0.00	19		0.00	0.00	A	110
		Flavones	Apigenin	0.00	51	0.00	0.00	0.01	B	85, 110, 116, 169, 230, 239
			Luteolin	0.12	42	0.08	0.00	2.70	B	12, 85, 110, 116, 169, 230, 239
		Flavonols	Kaempferol	0.14	37	0.07	0.00	2.67	B	12, 67, 85, 116, 141, 169, 179, 230, 239
			Myricetin	0.00	53	0.00	0.00	0.03	B	12, 85, 110, 116, 141, 169, 230, 239
			Quercetin	4.01	139	0.12	0.00	11.47	B	11, 12, 67, 85, 110, 116, 141, 158, 169, 179, 212, 230, 239, 276, 279, 283
09004	Apples, raw, without skin ( <i>Malus domestica</i> )	Anthocyanidins	Cyanidin	2.17	6	1.34	0.60	8.90	B	85, 110
			Delphinidin	0.01	8	0.00	0.00	0.02	B	85, 110
			Malvidin	0.00	4		0.00	0.00	B	110

USDA Database for the Flavonoid Content of Selected Foods, Release 3.3 (2018)

(For mean, standard error, min and max, units = mg/100g, edible portion)

NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
			Pelargonidin	0.01	8	0.00	0.00	0.02	B	85, 110		
			Peonidin	0.00	4		0.00	0.00	B	110		
			Petunidin	0.00	4		0.00	0.00	B	110		
		Flavan-3-ols	(-)-Epicatechin	6.25	43	0.60	0.00	14.23	B	15, 37, 110, 270		
			(-)-Epicatechin 3-gallate	0.00	31		0.00	0.00	A	15, 110		
			(-)-Epigallocatechin	0.14	31	0.08	0.00	1.52	A	15, 110		
			(-)-Epigallocatechin 3-gallate	0.03	31	0.02	0.00	0.48	A	15, 110		
			(+)-Catechin	1.23	37	0.17	0.00	5.52	B	15, 110, 270		
			(+)-Gallocatechin	0.00	31		0.00	0.00	A	15, 110		
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	110		
			Naringenin	0.00	3		0.00	0.00	B	110		
		Flavones	Apigenin	0.00	8	0.00	0.00	0.01	B	85, 110		
			Luteolin	0.01	8	0.00	0.00	0.02	B	85, 110		
		Flavonols	Kaempferol	0.01	4		0.01	0.01	B	85		
			Myricetin	0.01	8	0.00	0.00	0.03	B	85, 110		
Quercetin	1.05		39	0.16	0.00	2.00	B	37, 85, 110, 134, 270, 279				
97071	Apples, Red Delicious, raw, without skin	Anthocyanidins	Cyanidin	2.95	4	1.97	0.80	8.90	B	85, 110		
			Delphinidin	0.01	4	0.00	0.00	0.02	B	85, 110		
			Malvidin	0.00	2		0.00	0.00	B	110		
			Pelargonidin	0.01	4	0.00	0.00	0.02	B	85, 110		
			Peonidin	0.00	2		0.00	0.00	B	110		
			Petunidin	0.00	2		0.00	0.00	B	110		
		Flavan-3-ols	(-)-Epicatechin	4.09	2	0.11	3.98	4.20	B	110		
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110		
			(-)-Epigallocatechin	1.37	2	0.07	1.30	1.44	B	110		
			(-)-Epigallocatechin 3-gallate	0.46	2	0.02	0.43	0.48	B	110		
			(+)-Catechin	1.00	2	0.03	0.97	1.02	B	110		
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110		
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110		
			Naringenin	0.00	2		0.00	0.00	B	110		
		Flavones	Apigenin	0.00	4	0.00	0.00	0.01	B	85, 110		
			Luteolin	0.01	4	0.00	0.00	0.02	B	85, 110		
		Flavonols	Myricetin	0.01	4	0.00	0.00	0.03	B	85, 110		
			Quercetin	0.41	4	0.02	0.00	0.66	B	85, 110		
		09500	Apples, Red Delicious, raw, with skin	Anthocyanidins	Cyanidin	4.91	21	0.97	1.41	15.42	B	85, 110, 276, 283, 294
					Delphinidin	0.01	6	0.00	0.00	0.02	B	85, 110

USDA Database for the Flavonoid Content of Selected Foods, Release 3.3 (2018)

(For mean, standard error, min and max, units = mg/100g, edible portion)

NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.01	6	0.00	0.00	0.02	B	85, 110
			Peonidin	0.07	6	0.05	0.00	0.28	B	110, 294
			Petunidin	0.00	4		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	9.83	19	1.58	0.80	15.92	B	58, 110, 270, 276, 283
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	58, 110
			(-)-Epigallocatechin	0.37	7	0.24	0.00	1.44	B	58, 110
			(-)-Epigallocatechin 3-gallate	0.13	7	0.09	0.00	0.65	B	58, 110
			(+)-Catechin	2.00	19	0.35	0.00	3.10	B	58, 110, 270, 276, 283
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	58, 110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	6	0.00	0.00	0.01	B	85, 110
			Luteolin	0.01	4	0.00	0.00	0.02	B	85, 110
		Flavonols	Myricetin	0.01	6	0.00	0.00	0.03	B	85, 110
			Quercetin	3.86	18	0.52	0.25	7.60	B	85, 110, 270, 276, 283
09019	Applesauce, canned, unsweetened, without added ascorbic acid (includes USDA commodity)	Flavan-3-ols	(-)-Epicatechin	5.41	1		5.41	5.41	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.69	1		0.69	0.69	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
		Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
Quercetin	2.00		4		2.00	2.00	B	116		
09023	Apricots, canned, water pack, without skin, solids and liquids	Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.00	4		0.00	0.00	B	116
09021	Apricots, raw ( <i>Prunus armeniaca</i> )	Flavan-3-ols	(-)-Epicatechin	4.74	42	0.60	0.02	8.29	B	15, 58, 66, 67, 68, 269
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(+)-Catechin	3.67	42	0.46	0.31	7.34	B	15, 58, 66, 67, 68, 269

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	15, 58
		Flavones	Apigenin	0.00	2		0.00	0.00	B	116, 169
			Luteolin	0.00	2		0.00	0.00	B	116, 169
		Flavonols	Kaempferol	0.63	33	0.08	0.00	1.32	B	66, 67, 68, 116, 141, 169
			Myricetin	0.00	3		0.00	0.00	C	116, 141, 169
			Quercetin	1.63	34	0.20	0.38	2.90	B	66, 67, 68, 116, 134, 141, 169
99043	Arctic bramble berries	Anthocyanidins	Cyanidin	88.30	1		88.30	88.30	C	172
			Pelargonidin	0.70	1		0.70	0.70	C	172
		Flavan-3-ols	(-)-Epicatechin	1.80	1		1.80	1.80	C	172
			(+)-Catechin	2.30	1		2.30	2.30	C	172
		Flavonols	Isorhamnetin	1.40	1		1.40	1.40	C	172
			Kaempferol	0.15	2	0.15	0.00	0.30	C	109, 172
			Myricetin	0.00	1		0.00	0.00	C	109
			Quercetin	9.10	2	6.00	3.10	15.10	C	109, 172
09037	Avocados, raw, all commercial varieties ( <i>Persea americana</i> )	Anthocyanidins	Cyanidin	0.33	6	0.11	0.00	0.58	B	110
			Delphinidin	0.00	6		0.00	0.00	B	110
			Malvidin	0.00	6		0.00	0.00	B	110
			Pelargonidin	0.00	6		0.00	0.00	B	110
			Peonidin	0.00	6		0.00	0.00	B	110
			Petunidin	0.00	6		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.37	14	0.07	0.00	1.11	A	15, 58, 110
			(-)-Epicatechin 3-gallate	0.00	14		0.00	0.00	A	15, 58, 110
			(-)-Epigallocatechin	0.00	13		0.00	0.00	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.15	14	0.10	0.00	1.10	A	15, 58, 110
			(+)-Catechin	0.00	14		0.00	0.00	A	15, 58, 110
			(+)-Gallocatechin	0.00	14		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	110
			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	7		0.00	0.00	B	110, 239
			Luteolin	0.00	7		0.00	0.00	B	110, 239
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	239
			Myricetin	0.00	7		0.00	0.00	B	110, 239
			Quercetin	0.00	7		0.00	0.00	B	110, 239
99630	Banana, dwarf, raw ( <i>Musa nana</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	0.00	1		0.00	0.00	C	152
99597	Bananas, boiled	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
09040	Bananas, raw ( <i>Musa acuminata Colla</i> )	Anthocyanidins	Cyanidin	0.00	9		0.00	0.00	A	110, 206a
			Delphinidin	0.00	1		0.00	0.00	C	206a
			Malvidin	0.00	9		0.00	0.00	A	110, 206a
			Pelargonidin	0.00	9		0.00	0.00	A	110, 206a
			Peonidin	0.00	9		0.00	0.00	A	110, 206a
			Petunidin	0.00	9		0.00	0.00	A	110, 206a
		Flavan-3-ols	(-)-Epicatechin	0.02	14	0.01	0.00	0.07	A	15, 58, 110
			(-)-Epicatechin 3-gallate	0.00	14		0.00	0.00	A	15, 58, 110
			(-)-Epigallocatechin	0.00	14	0.00	0.00	0.01	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.00	14		0.00	0.00	A	15, 58, 110
			(+)-Catechin	6.10	125	0.53	0.00	10.29	B	15, 58, 60, 110
			(+)-Gallocatechin	0.00	14		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	110
			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	9		0.00	0.00	B	110, 169
			Luteolin	0.00	5		0.00	0.00	B	110, 169
		Flavonols	Kaempferol	0.11	3	0.11	0.00	0.32	C	141, 152, 169
			Myricetin	0.01	11	0.01	0.00	0.14	B	110, 141, 152, 169
			Quercetin	0.06	11	0.04	0.00	0.32	B	110, 141, 152, 169
99598	Bayberries, raw	Flavonols	Myricetin	3.65	3	0.71	2.42	4.87	C	81
			Quercetin	4.36	3	1.67	2.29	7.67	C	81
99065	Bilberry soup	Flavonols	Quercetin	0.60	1		0.60	0.60	C	107
99357	Bilberry, raw	Anthocyanidins	Cyanidin	85.26	22	4.84	9.72	125.00	B	137, 155, 195
			Delphinidin	97.59	22	5.05	60.31	161.93	B	137, 155, 195
			Malvidin	39.22	22	1.70	22.58	54.37	B	137, 155, 195
			Peonidin	20.45	22	1.79	9.42	51.01	B	137, 155, 195
			Petunidin	42.69	22	1.51	31.87	55.59	B	137, 155, 195
		Flavonols	Kaempferol	0.00	2		0.00	0.00	C	109
			Myricetin	1.09	8	0.05	0.00	2.10	B	107, 108, 109
			Quercetin	3.04	8	0.72	1.70	4.12	B	107, 108, 109
09042	Blackberries, raw ( <i>Rubus spp.</i> )	Anthocyanidins	Cyanidin	99.95	62	6.96	44.17	317.18	B	78, 110, 181, 294

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Delphinidin	0.00	4		0.00	0.00	B	110
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.45	7	0.25	0.00	1.70	B	110, 294
			Peonidin	0.21	5	0.21	0.00	1.05	B	110, 294
			Petunidin	0.00	4		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	4.66	20	0.47	0.00	18.08	B	15, 58, 110, 247, 269
			(-)-Epicatechin 3-gallate	0.00	11		0.00	0.00	A	15, 58, 110
			(-)-Epigallocatechin	0.10	11	0.01	0.00	0.36	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.68	11	0.68	0.00	7.44	A	15, 58, 110
			(+)-Catechin	37.06	16	24.71	0.00	312.86	B	15, 58, 110, 247, 269
			(+)-Gallocatechin	0.00	11		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	5		0.00	0.00	B	110, 169
			Luteolin	0.00	3		0.00	0.00	B	110, 169
		Flavonols	Kaempferol	0.27	15	0.20	0.00	3.13	B	25, 131, 169, 181, 247
			Myricetin	0.67	15	0.67	0.00	9.99	B	25, 110, 247
			Quercetin	3.58	25	0.70	0.00	11.90	B	25, 45, 110, 131, 169, 181, 247
		09050	Blueberries, cultivated (highbush), raw ( <i>Vaccinium spp.</i> )	Anthocyanidins	Cyanidin	8.46	55	1.79	0.50	73.86
Delphinidin	35.43				55	5.49	3.32	186.98	B	85, 92, 110, 191, 285, 286, 287, 294, 307
Malvidin	67.59				54	3.50	27.98	185.11	B	92, 110, 191, 285, 286, 287, 294, 307
Pelargonidin	0.00				8	0.00	0.00	0.02	B	85, 110
Peonidin	20.29				17	4.43	0.97	59.91	B	92, 110, 191, 294
Petunidin	31.53				54	1.64	9.17	111.32	B	92, 110, 191, 285, 286, 287, 294, 307
Flavan-3-ols	(-)-Epicatechin			0.62	33	0.09	0.00	3.29	B	15, 58, 110, 247, 269
	(-)-Epicatechin 3-gallate			0.00	15		0.00	0.00	A	15, 58, 110
	(-)-Epigallocatechin			0.66	15	0.18	0.00	2.08	A	15, 58, 110
	(-)-Epigallocatechin 3-gallate			0.00	15		0.00	0.00	A	15, 58, 110
	(+)-Catechin			5.29	23	1.77	0.00	29.28	B	15, 58, 110, 247, 269
	(+)-Gallocatechin			0.12	15	0.03	0.00	0.59	A	15, 58, 110
Flavanones	Hesperetin			0.00	8		0.00	0.00	A	110
	Naringenin			0.00	8		0.00	0.00	A	110
Flavones	Apigenin			0.00	8	0.00	0.00	0.01	B	85, 110

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Luteolin	0.20	4	0.20	0.00	0.80	B	85, 110
		Flavonols	Kaempferol	1.66	17	0.21	0.00	4.10	B	25, 85, 109, 131, 247, 286, 307
			Myricetin	1.30	62	0.21	0.00	8.63	B	25, 45, 85, 109, 110, 131, 247, 285, 286, 287, 307
			Quercetin	7.67	72	0.18	0.00	18.72	B	25, 45, 85, 109, 110, 131, 134, 238, 247, 285, 286, 287, 307
09054	Blueberries, frozen, unsweetened	Anthocyanidins	Cyanidin	4.36	2	3.14	1.22	7.50	C	85, 159
			Delphinidin	21.59	2	1.19	20.40	22.77	C	85, 159
			Malvidin	49.65	1		49.65	49.65	C	159
			Pelargonidin	0.02	1		0.02	0.02	C	85
			Peonidin	0.47	1		0.47	0.47	C	159
			Petunidin	18.16	1		18.16	18.16	C	159
		Flavones	Apigenin	0.01	1		0.01	0.01	C	85
			Luteolin	1.80	1		1.80	1.80	C	85
		Flavonols	Kaempferol	1.10	1		1.10	1.10	C	85
			Myricetin	1.76	7	0.33	0.80	3.50	B	85, 108
			Quercetin	4.64	7	0.93	2.20	8.90	B	85, 108
99653	Blueberries, rabbiteye, raw ( <i>Vaccinium spp.</i> )	Anthocyanidins	Cyanidin	9.60	43	0.91	0.10	25.15	C	285, 302
			Delphinidin	23.41	43	1.55	2.34	49.36	C	285, 302
			Malvidin	63.45	43	3.37	4.68	101.27	C	285, 302
			Peonidin	15.90	4	1.56	12.82	18.75	C	302
			Petunidin	36.25	43	1.84	1.10	60.58	C	285, 302
		Flavan-3-ols	(-)-Epicatechin	25.66	36	1.04	0.00	129.51	B	247
			(+)-Catechin	98.47	12	37.63	14.53	387.48	B	247
		Flavonols	Kaempferol	2.36	12	0.33	0.00	3.72	B	247
			Myricetin	2.92	51	0.31	0.00	8.62	B	247, 285
			Quercetin	14.42	55	1.15	0.00	33.92	B	247, 285, 302
97085	Blueberries, wild (lowbush), raw ( <i>Vaccinium spp.</i> )	Anthocyanidins	Cyanidin	19.35	12	4.64	2.51	66.27	B	92, 120, 294
			Delphinidin	37.59	12	9.72	11.63	141.14	B	92, 120, 294
			Malvidin	57.16	12	9.51	26.96	154.61	B	92, 120, 294
			Pelargonidin	2.65	1		2.65	2.65	C	120
			Peonidin	9.99	12	2.77	2.87	36.87	B	92, 120, 294
			Petunidin	23.52	12	6.01	5.64	87.59	B	92, 120, 294
99326	Bog whortleberries, wild, frozen	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	109
			Myricetin	7.30	2	4.70	2.60	12.00	C	108, 109
			Quercetin	17.70	2	1.90	15.80	19.60	C	108, 109

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(For mean, standard error, min and max, units = mg/100g, edible portion)

NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99619	Breadfruit, boiled	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
99600	Cashew apple, raw	Anthocyanidins	Cyanidin	0.19	1		0.19	0.19	D	55
		Flavones	Apigenin	0.00	5		0.00	0.00	C	230
			Luteolin	0.00	5		0.00	0.00	C	230
		Flavonols	Kaempferol	0.18	5		0.18	0.18	C	230
			Myricetin	1.93	6	0.73	1.60	2.00	C	55, 230
			Quercetin	1.27	6	0.47	1.13	1.30	C	55, 230
99601	Cedar bay cherry, raw	Anthocyanidins	Cyanidin	27.82	1		27.82	27.82	C	191
99603	Cherries, sour, dry, sweetened	Anthocyanidins	Cyanidin	2.27	2	1.56	0.71	3.82	D	145
			Pelargonidin	0.01	2	0.01	0.00	0.03	D	145
			Peonidin	0.14	2	0.08	0.06	0.23	D	145
		Flavonols	Isorhamnetin	7.71	2	0.96	6.75	8.67	D	145
			Kaempferol	1.25	2	0.17	1.08	1.42	D	145
			Quercetin	0.45	2	0.29	0.16	0.74	D	145
99604	Cherries, sour, dry, unsweetened	Anthocyanidins	Cyanidin	6.83	2	4.72	2.11	11.55	D	145
			Pelargonidin	0.05	2	0.02	0.03	0.07	D	145
			Peonidin	0.57	2	0.32	0.25	0.89	D	145
		Flavonols	Isorhamnetin	8.91	2	7.39	1.52	16.30	D	145
			Kaempferol	2.51	2	1.09	1.42	3.60	D	145
			Quercetin	0.45	2	0.18	0.26	0.63	D	145
99606	Cherries, sour, powder	Anthocyanidins	Cyanidin	31.42	2	5.58	25.85	37.00	D	145
			Pelargonidin	0.00	2		0.00	0.00	D	145
			Peonidin	3.11	2	0.59	2.53	3.70	D	145
		Flavonols	Isorhamnetin	6.06	2	2.88	3.19	8.94	D	145
			Kaempferol	5.14	2	3.46	1.68	8.59	D	145
			Quercetin	17.44	2	11.82	5.62	29.26	D	145
09068	Cherries, sour, red, frozen, unsweetened	Anthocyanidins	Cyanidin	10.13	2	5.19	4.95	15.32	D	145
			Pelargonidin	0.00	2		0.00	0.00	D	145
			Peonidin	1.11	2	0.54	0.57	1.66	D	145
		Flavonols	Isorhamnetin	2.64	2	0.36	2.28	3.00	D	145
			Kaempferol	0.15	2	0.08	0.07	0.24	D	145
			Quercetin	0.13	2	0.02	0.11	0.15	D	145
09063	Cherries, sour, red, raw	Anthocyanidins	Cyanidin	32.57	10	11.37	1.61	105.44	B	144, 252, 292



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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	<i>(Prunus cerasus)</i>		Peonidin	0.87	1		0.87	0.87	C	144
		Flavan-3-ols	(-)-Epicatechin	3.83	6	3.14	0.68	19.60	B	42, 269
			(+)-Catechin	0.30	5		0.30	0.30	B	269
		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Isorhamnetin	0.72	4	0.24	0.17	1.34	C	144
			Kaempferol	0.24	5	0.10	0.00	0.62	B	131, 144, 169
			Myricetin	0.00	1		0.00	0.00	C	169
Quercetin	1.47		6	0.41	0.51	2.92	B	131, 144, 169		
09070	Cherries, sweet, raw ( <i>Prunus avium</i> )	Anthocyanidins	Cyanidin	30.21	83	4.21	0.72	145.09	B	91, 103, 110, 130, 144, 274, 294
			Delphinidin	0.00	4		0.00	0.00	B	110
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.27	74	0.03	0.00	1.88	B	91, 103, 110, 274
			Peonidin	1.50	83	0.27	0.00	10.99	B	91, 103, 110, 130, 144, 274, 294
			Petunidin	0.00	4		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	5.00	84	0.35	0.43	27.04	B	15, 42, 58, 103, 110, 269, 274
			(-)-Epicatechin 3-gallate	0.05	11	0.01	0.00	0.20	A	15, 58, 110
			(-)-Epigallocatechin	0.34	11	0.26	0.00	2.89	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.00	10		0.00	0.00	B	15, 58, 110
			(+)-Catechin	4.36	40	0.53	0.00	14.90	B	15, 58, 103, 110, 269
			(+)-Gallocatechin	0.00	11		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	6		0.00	0.00	B	110, 116, 169
			Luteolin	0.00	6		0.00	0.00	B	110, 116, 169
		Flavonols	Isorhamnetin	0.05	4	0.01	0.04	0.07	C	144
			Kaempferol	0.24	9	0.08	0.00	0.67	B	116, 131, 141, 144, 152, 169
			Myricetin	0.05	9	0.05	0.00	0.45	B	110, 116, 131, 141, 152, 169
			Quercetin	2.29	80	0.02	0.10	6.78	B	103, 110, 116, 131, 134, 141, 144, 152, 169, 238, 274
		99012	Chokeberry, raw	Anthocyanidins	Cyanidin	344.07	7	69.98	26.95	947.52
Delphinidin	0.65				1		0.65	0.65	C	120
Malvidin	1.22				1		1.22	1.22	C	120
Pelargonidin	0.98				2	0.47	0.51	1.44	C	120, 295
Peonidin	0.08				1		0.08	0.08	C	120
Petunidin	2.79				1		2.79	2.79	C	120

USDA Database for the Flavonoid Content of Selected Foods, Release 3.3 (2018)

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NDB No.	Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Kaempferol	0.34	2	0.34	0.00	0.69	C	109, 131
			Myricetin	0.00	1		0.00	0.00	C	109
			Quercetin	18.53	3	9.47	8.90	37.46	C	109, 131, 307
99083	Cider, apple (European)	Flavan-3-ols	(-)-Epicatechin	0.32	6	0.20	0.00	1.15	C	6, 58, 261
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	1.95	5	1.21	0.00	5.53	C	6, 58
			(+)-Galocatechin	0.00	3		0.00	0.00	C	58
			Flavonols	Quercetin	0.48	2	0.48	0.00	0.96	C
99337	Cloudberries, raw	Anthocyanidins	Cyanidin	1.70	1		1.70	1.70	C	172
			Pelargonidin	0.00	1		0.00	0.00	C	172
		Flavan-3-ols	(-)-Epicatechin	0.80	1		0.80	0.80	C	172
			(+)-Catechin	0.50	1		0.50	0.50	C	172
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	172
			Kaempferol	0.00	3		0.00	0.00	C	109, 172
			Myricetin	0.00	2		0.00	0.00	C	109
			Quercetin	0.57	3	0.03	0.50	0.60	C	109, 172
09079	Cranberries, dried, sweetened (Includes foods for USDA's Food Distribution Program)	Anthocyanidins	Cyanidin	1.29	8	0.29	0.46	2.87	B	48, 196a
			Delphinidin	0.10	2		0.10	0.10	C	48
			Pelargonidin	0.02	2		0.02	0.02	C	48
			Peonidin	1.32	6	0.29	0.41	2.20	B	196a
		Flavones	Apigenin	0.01	2		0.01	0.01	C	48
			Luteolin	0.02	2		0.02	0.02	C	48
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	48
Myricetin	5.67		8	0.75	2.40	8.18	B	48, 196a		
Quercetin	12.79		8	1.92	4.50	18.64	B	48, 196a		
09078	Cranberries, raw ( <i>Vaccinium macrocarpon</i> )	Anthocyanidins	Cyanidin	29.88	13	4.05	11.00	53.35	A	68, 190, 196a
			Delphinidin	7.66	5	1.93	0.12	10.66	B	68, 190
			Malvidin	0.31	6	0.22	0.00	1.34	B	68, 190
			Pelargonidin	0.00	4		0.00	0.00	B	68
			Peonidin	30.54	13	4.12	12.37	58.18	A	68, 190, 196a
			Petunidin	0.00	4		0.00	0.00	B	68
		Flavan-3-ols	(-)-Epicatechin	4.37	8	0.93	2.95	5.72	A	8, 68
			(-)-Epicatechin 3-gallate	0.00	8		0.00	0.00	A	8, 68
			(-)-Epigallocatechin	0.74	8	0.28	0.00	1.79	A	8, 68
			(-)-Epigallocatechin 3-gallate	0.97	8	0.48	0.00	2.86	A	8, 68

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			(+)-Catechin	0.39	8	0.16	0.00	1.06	A	8, 68
			(+)-Gallocatechin	0.00	8		0.00	0.00	A	8, 68
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	68
			Naringenin	0.00	4		0.00	0.00	B	68
		Flavones	Apigenin	0.00	4		0.00	0.00	B	68
		Flavonols	Kaempferol	0.09	14	0.03	0.00	0.27	B	17, 67
			Myricetin	7.63	26	1.36	0.40	23.00	B	17, 67, 68, 75, 81, 196a
			Quercetin	16.64	26	1.06	7.30	27.57	B	17, 67, 68, 75, 81m 196a
14242	Cranberry juice cocktail, bottled	Anthocyanidins	Cyanidin	0.22	9	0.04	0.08	0.38	A	48, 196a
			Delphinidin	0.03	1		0.03	0.03	B	48
			Pelargonidin	0.03	1		0.03	0.03	B	48
			Peonidin	0.21	8	0.05	0.09	0.46	CC	196a
		Flavan-3-ols	(+)-Catechin	0.19	1		0.19	0.19	C	29
		Flavones	Apigenin	0.01	1		0.01	0.01	B	48
			Luteolin	0.03	1		0.03	0.03	B	48
		Flavonols	Kaempferol	0.01	1		0.01	0.01	B	48
			Myricetin	1.36	10	0.17	0.27	1.94	B	29, 48, 196a
			Quercetin	3.35	10	0.36	1.13	4.32	B	29, 48, 196a
09526	Cranberry sauce, jellied, canned, OCEAN SPRAY	Anthocyanidins	Peonidin	0.51	4	0.22	0.13	1.13	B	196a
		Flavonols	Myricetin	3.23	4	0.55	2.09	4.71	B	196a
			Quercetin	7.26	4	0.60	5.77	8.58	B	196a
09525	Cranberry Sauce, whole, canned, OCEAN SPRAY	Anthocyanidins	Cyanidin	0.67	4	0.20	0.36	1.27	B	196a
			Peonidin	0.54	4	0.16	0.29	1.02	B	196a
		Flavonols	Myricetin	3.53	4	0.59	2.42	4.85	B	196a
			Quercetin	7.72	4	0.59	6.83	9.43	B	196a
99631	Cranberry bush berries, raw ( <i>Viburnum opulus L.</i> )	Anthocyanidins	Cyanidin	5.11	1		5.11	5.11	D	282
		Flavan-3-ols	(-)-Epicatechin	2.69	1		2.69	2.69	D	282
			(+)-Catechin	29.04	1		29.04	29.04	D	282
		Flavonols	Quercetin	10.73	1		10.73	10.73	D	282
09081	Cranberry sauce, canned, sweetened	Anthocyanidins	Cyanidin	0.10	2		0.10	0.10	C	85
			Delphinidin	0.02	2		0.02	0.02	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85
		Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	2.70	2		2.70	2.70	C	85
Quercetin	2.40		2		2.40	2.40	C	85		
99339	Crowberries, raw	Flavonols	Kaempferol	0.00	2		0.00	0.00	C	109

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			Myricetin	4.65	2	0.25	4.40	4.90	C	109
			Quercetin	5.45	2	0.15	5.30	5.60	C	109
99073	Currants, dried	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.00	1		0.00	0.00	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
09083	Currants, european black, raw ( <i>Ribes nigrum</i> )	Anthocyanidins	Cyanidin	62.46	50	6.01	50.81	149.40	B	9, 129, 137, 173, 195, 295
			Delphinidin	89.62	50	3.10	59.00	272.81	B	9, 129, 137, 173, 195, 295
			Pelargonidin	1.17	6	0.12	0.79	1.39	C	295
			Peonidin	0.66	7	0.11	0.26	1.09	B	137, 295
			Petunidin	3.87	7	1.55	0.07	12.30	B	137, 295
		Flavan-3-ols	(-)-Epicatechin	0.47	4		0.47	0.47	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.70	4		0.70	0.70	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Isorhamnetin	0.12	40	0.02	0.08	0.19	B	9
			Kaempferol	0.71	61	0.07	0.00	2.30	B	9, 109, 134, 169, 173, 182
			Myricetin	6.18	65	0.57	0.00	24.50	B	9, 107, 109, 169, 173, 182, 284
			Quercetin	4.45	68	0.22	2.27	12.20	B	9, 107, 109, 134, 169, 173, 182, 284
99654	Currants, golden, raw ( <i>Ribes aureum</i> )	Anthocyanidins	Cyanidin	108.82	1		108.82	108.82	C	132
			Delphinidin	0.73	1		0.73	0.73	C	132
			Peonidin	0.07	1		0.07	0.07	C	132
99044	Currants, red, raw	Anthocyanidins	Cyanidin	65.54	3	52.70	8.12	170.80	C	132, 173, 295
			Delphinidin	9.32	3	9.28	0.00	27.89	C	132, 173, 295
			Peonidin	0.16	1		0.16	0.16	C	132
		Flavan-3-ols	(-)-Epicatechin	0.08	7	0.02	0.00	0.19	B	15, 58
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	0.15	7	0.03	0.00	0.36	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(+)-Catechin	1.27	7	0.44	1.22	1.33	B	15, 58
(+)-Gallocatechin	1.28	7	0.44	1.22	1.35	B	15, 58			

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		Flavones	Apigenin	0.00	2		0.00	0.00	B	116, 169
			Luteolin	0.00	2		0.00	0.00	B	116, 169
		Flavonols	Kaempferol	0.01	5	0.01	0.00	0.04	B	109, 116, 131, 169, 173
			Myricetin	0.91	5	0.85	0.00	4.29	B	109, 116, 131, 169, 173
Quercetin	0.77		7	0.08	0.00	1.30	B	109, 116, 131, 134, 169, 173		
99045	Currants, white, raw	Anthocyanidins	Cyanidin	1.00	3	1.00	0.00	2.99	C	132, 173
			Delphinidin	0.00	3		0.00	0.00	C	132, 173
			Peonidin	0.00	1		0.00	0.00	C	132
		Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(+)-Catechin	0.30	1		0.30	0.30	B	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	15
		Flavonols	Kaempferol	0.17	4	0.17	0.00	0.70	C	109, 173
			Myricetin	0.18	4	0.17	0.00	0.70	C	109, 173
			Quercetin	2.68	4	1.36	0.50	6.30	C	109, 173
		09086	Custard-apple, (bullock's-heart), raw ( <i>Annona reticulata</i> )	Flavan-3-ols	(-)-Epicatechin	5.63	3		5.63	5.63
(-)-Epicatechin 3-gallate	0.04				3		0.04	0.04	C	58
(-)-Epigallocatechin	0.00				3		0.00	0.00	C	58
(-)-Epigallocatechin 3-gallate	0.00				3		0.00	0.00	C	58
(+)-Catechin	0.58				3		0.58	0.58	C	58
(+)-Gallocatechin	0.00				3		0.00	0.00	C	58
09087	Dates, deglet noor ( <i>Phoenix dactylifera</i> )	Anthocyanidins	Cyanidin	1.70	6	0.63	0.00	4.10	B	110
			Delphinidin	0.00	6		0.00	0.00	B	110
			Malvidin	0.00	6		0.00	0.00	B	110
			Pelargonidin	0.00	6		0.00	0.00	B	110
			Peonidin	0.00	6		0.00	0.00	B	110
			Petunidin	0.00	6		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	5		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(+)-Catechin	0.00	5		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	5		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	0.00	6		0.00	0.00	B	110

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			Luteolin	0.00	3		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	6		0.00	0.00	B	110
			Quercetin	0.93	6	0.43	0.00	2.40	B	110
09088	Elderberries, raw ( <i>Sambucus spp.</i> )	Anthocyanidins	Cyanidin	485.26	94	31.53	132.99	1067.33	B	135, 157, 280, 295
			Delphinidin	0.00	55		0.00	0.00	B	157
			Pelargonidin	0.02	56	0.02	0.00	1.13	B	157, 295
			Petunidin	0.00	55		0.00	0.00	B	157
		Flavonols	Isorhamnetin	5.42	55	0.54	0.16	10.26	B	157
			Kaempferol	0.58	55	0.06	0.23	1.27	B	157
			Quercetin	26.77	93	1.78	8.47	60.00	B	135, 157, 280
09089	Figs, raw ( <i>Ficus carica</i> )	Anthocyanidins	Cyanidin	0.50	20	0.07	0.00	1.11	B	69, 110
			Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.01	20	0.00	0.00	0.03	B	69, 110
			Peonidin	0.00	20		0.00	0.00	B	69, 110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	0.50	56	0.06	0.00	0.97	B	58, 110, 269, 281
			(-)-Epicatechin 3-gallate	0.00	8		0.00	0.00	B	58, 110
			(-)-Epigallocatechin	0.00	8		0.00	0.00	B	58, 110
			(-)-Epigallocatechin 3-gallate	0.00	8		0.00	0.00	B	58, 110
			(+)-Catechin	1.59	55	0.18	0.00	4.03	B	58, 110, 269, 281
			(+)-Gallocatechin	0.00	8		0.00	0.00	B	58, 110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	0.00	13		0.00	0.00	A	110, 230
			Luteolin	0.00	9		0.00	0.00	B	110, 230
		Flavonols	Kaempferol	0.00	5		0.00	0.00	B	230
			Myricetin	0.00	13		0.00	0.00	A	110, 230
			Quercetin	5.47	58	0.59	0.00	14.21	B	110, 230, 281
99618	Goji berry (wolfberry), dried	Flavonols	Kaempferol	6.20	1		6.20	6.20	D	156
			Myricetin	11.40	1		11.40	11.40	D	156
			Quercetin	13.60	1		13.60	13.60	D	156
09107	Gooseberries, raw ( <i>Ribes spp.</i> )	Anthocyanidins	Cyanidin	8.73	18	1.23	0.05	16.97	B	132, 295
			Delphinidin	0.01	14	0.01	0.00	0.15	B	132
			Peonidin	0.77	17	0.39	0.07	6.93	B	132, 295
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15

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			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	1.67	4		1.67	1.67	B	15
			(+)-Galocatechin	0.44	4		0.44	0.44	B	15
		Flavones	Apigenin	0.00	2		0.00	0.00	C	169
			Luteolin	0.00	2		0.00	0.00	C	169
		Flavonols	Kaempferol	0.88	4	0.51	0.00	1.90	B	109, 169
			Myricetin	0.00	4		0.00	0.00	B	109, 169
			Quercetin	1.23	4	0.49	0.00	2.20	B	109, 169
97003	Grape seeds, raw	Flavan-3-ols	(-)-Epicatechin	93.31	35	8.42	23.00	284.00	C	88, 300
			(+)-Catechin	74.63	35	5.78	6.00	244.00	C	88, 300
99347	Grapefruit, raw (not specified as to color) ( <i>Citrus paradisi</i> )	Flavanones	Hesperetin	1.50	2		1.50	1.50	C	134
			Naringenin	53.00	2		53.00	53.00	C	134
		Flavonols	Kaempferol	0.40	2		0.40	0.40	C	134
			Quercetin	0.50	2		0.50	0.50	C	134
09112	Grapefruit, raw, pink and red, all areas ( <i>Citrus paradisi</i> )	Anthocyanidins	Cyanidin	0.00	7		0.00	0.00	B	110
			Delphinidin	0.00	7		0.00	0.00	B	110
			Malvidin	0.00	7		0.00	0.00	B	110
			Pelargonidin	0.00	7		0.00	0.00	B	110
			Peonidin	0.00	7		0.00	0.00	B	110
			Petunidin	0.00	7		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	7		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(+)-Catechin	0.00	7		0.00	0.00	B	110
			(+)-Galocatechin	0.00	7		0.00	0.00	B	110
		Flavanones	Hesperetin	0.35	10	0.04	0.00	1.17	B	85, 110
			Naringenin	32.64	9	6.62	16.28	44.97	B	85, 110
		Flavones	Apigenin	0.00	10	0.00	0.00	0.01	B	85, 110
			Luteolin	0.60	7	0.12	0.00	1.40	B	85, 110
		Flavonols	Kaempferol	0.01	3		0.01	0.01	C	85
			Myricetin	0.01	10	0.00	0.00	0.03	B	85, 110
			Quercetin	0.33	10	0.19	0.00	2.02	B	85, 110
09116	Grapefruit, raw, white, all areas ( <i>Citrus paradisi</i> )	Flavanones	Hesperetin	0.64	2		0.64	0.64	C	85
			Naringenin	21.34	2		21.34	21.34	C	85
		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169

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			Myricetin	0.00	1		0.00	0.00	C	169
			Quercetin	0.00	1		0.00	0.00	C	169
99048	Grapes, black ( <i>Vitis vinifera</i> )	Flavan-3-ols	(-)-Epicatechin	8.68	11	2.48	8.64	8.70	B	15, 269
			(-)-Epicatechin 3-gallate	2.81	4		2.81	2.81	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	10.14	11	2.91	8.94	10.83	B	15, 269
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
			Flavones	Apigenin	0.00	1		0.00	0.00	B
			Luteolin	0.00	1		0.00	0.00	B	116
		Flavonols	Kaempferol	0.09	2	0.09	0.00	0.18	C	116, 141
			Myricetin	0.22	2	0.22	0.00	0.45	C	116, 141
	Quercetin	2.08	5	0.45	0.24	3.70	B	116, 134, 141, 202		
99650	Grapes, Concord, raw ( <i>Vitis vinifera</i> )	Anthocyanidins	Cyanidin	23.76	1		23.76	23.76	C	294
			Delphinidin	70.62	1		70.62	70.62	C	294
			Malvidin	6.01	1		6.01	6.01	C	294
			Peonidin	4.78	1		4.78	4.78	C	294
			Petunidin	14.93	1		14.93	14.93	C	294
		Flavan-3-ols	(-)-Epicatechin	2.14	1		2.14	2.14	C	200
		Flavonols	Quercetin	3.11	1		3.11	3.11	C	200
97074	Grapes, red, raw	Anthocyanidins	Cyanidin	1.16	22	0.36	0.17	5.73	B	85, 228, 294
			Delphinidin	2.27	22	0.37	0.25	3.39	B	85, 228, 294
			Malvidin	39.00	20	6.83	2.07	56.72	B	228, 294
			Pelargonidin	0.02	2		0.02	0.02	B	85
			Peonidin	3.62	20	0.88	1.28	14.73	B	228, 294
			Petunidin	1.97	20	0.33	0.25	3.09	B	228, 294
		Flavan-3-ols	(-)-Epicatechin	0.96	4	0.11	0.70	1.75	C	58, 200
			(-)-Epicatechin 3-gallate	0.17	3		0.17	0.17	C	58
			(-)-Epigallocatechin	0.08	3		0.08	0.08	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.82	3		0.82	0.82	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavones	Apigenin	0.00	4	0.00	0.00	0.01	B	85, 169
			Luteolin	1.30	4	0.00	0.00	2.60	B	85, 169
		Flavonols	Kaempferol	0.00	4	0.00	0.00	0.01	B	85, 169
			Myricetin	0.01	4	0.00	0.00	0.03	B	85, 169
			Quercetin	1.04	5	0.74	0.00	3.98	B	85, 169, 200
99047	Grapes, white or green, raw	Flavan-3-ols	(-)-Epicatechin	1.70	14	0.42	0.07	2.78	B	15, 58, 269



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	(Vitis vinifera)		(-)-Epicatechin 3-gallate	0.25	7	0.08	0.00	0.43	B	15, 58
			(-)-Epigallocatechin	0.02	7	0.00	0.00	0.04	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(+)-Catechin	3.73	14	0.92	0.39	5.89	B	15, 58, 269
			(+)-Gallocatechin	0.01	7	0.00	0.00	0.03	B	15, 58
		Flavones	Apigenin	0.00	3		0.00	0.00	B	116, 169
			Luteolin	0.00	3		0.00	0.00	B	116, 169
		Flavonols	Kaempferol	0.06	5	0.06	0.00	0.29	B	116, 138, 141, 169
			Myricetin	0.22	4	0.00	0.00	0.45	B	116, 141, 169
Quercetin	1.12		6	0.55	0.05	3.87	B	116, 134, 138, 141, 169		
99607	Guajiru (coco-plum), raw	Anthocyanidins	Delphinidin	15.19	1		15.19	15.19	D	54
			Peonidin	1.82	1		1.82	1.82	D	54
			Petunidin	55.72	1		55.72	55.72	D	54
99428	Guava, red-fleshed	Flavones	Apigenin	0.00	7		0.00	0.00	C	230
			Luteolin	0.00	7		0.00	0.00	C	230
		Flavonols	Kaempferol	0.00	7		0.00	0.00	C	230
			Myricetin	0.00	7		0.00	0.00	C	230
			Quercetin	1.00	7		1.00	1.00	C	230
99429	Guava, white-fleshed	Flavones	Apigenin	0.00	5		0.00	0.00	C	230
			Luteolin	0.00	5		0.00	0.00	C	230
		Flavonols	Kaempferol	0.00	5		0.00	0.00	C	230
			Myricetin	0.00	5		0.00	0.00	C	230
			Quercetin	1.20	5		1.20	1.20	C	230
99635	Jaboticaba (Brazilian grape), raw (Myrciaria jaboticaba)	Flavones	Apigenin	0.00	8		0.00	0.00	C	230
			Luteolin	0.00	8		0.00	0.00	C	230
		Flavonols	Kaempferol	0.00	8		0.00	0.00	C	230
			Myricetin	0.00	8		0.00	0.00	C	230
			Quercetin	1.10	8		1.10	1.10	C	230
99624	Jackfruit, steamed	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
99613	Jambul (Jambolão), raw (S. cumini)	Anthocyanidins	Cyanidin	1.90	1		1.90	1.90	D	54
			Delphinidin	17.73	1		17.73	17.73	D	54
			Malvidin	12.55	1		12.55	12.55	D	54
			Peonidin	5.16	1		5.16	5.16	D	54
			Petunidin	17.75	1		17.75	17.75	D	54
99625	Jostaberry, raw	Anthocyanidins	Cyanidin	21.19	2	1.31	19.88	22.49	C	132

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			Delphinidin	6.61	2	0.53	6.08	7.13	C	132		
			Peonidin	0.08	2	0.00	0.07	0.08	C	132		
99397	Juice concentrate, black currant	Anthocyanidins	Cyanidin	110.40	1		110.40	110.40	C	24		
			Delphinidin	201.28	1		201.28	201.28	C	24		
			Flavonols	Myricetin	20.85	1		20.85	20.85	C	24	
		Quercetin	22.85	1		22.85	22.85	C	24			
		99398	Juice concentrate, chokeberry	Anthocyanidins	Cyanidin	231.61	2	62.79	168.82	294.39	C	24, 130
		Flavonols	Quercetin	68.17	1		68.17	68.17	C	24		
99402	Juice concentrate, elderberry	Anthocyanidins	Cyanidin	411.40	2	9.00	402.39	420.40	C	24, 130		
		Flavonols	Quercetin	108.16	1		108.16	108.16	C	24		
99605	Juice concentrate, sour cherry	Anthocyanidins	Cyanidin	10.39	2	5.51	4.88	15.90	D	145		
			Pelargonidin	0.00	2		0.00	0.00	D	145		
			Peonidin	0.66	2	0.22	0.44	0.88	D	145		
		Flavonols	Isorhamnetin	8.56	2	2.36	6.20	10.91	D	145		
			Kaempferol	0.64	2	0.25	0.39	0.89	D	145		
			Quercetin	0.33	2	0.17	0.16	0.50	D	145		
09016	Juice, apple, canned or bottled, unsweetened, without added ascorbic acid	Anthocyanidins	Cyanidin	0.02	6	0.00	0.00	0.03	B	189		
		Flavan-3-ols	(-)-Epicatechin	4.71	13	2.25	0.00	21.86	B	16, 245, 256, 275		
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	16		
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	16		
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	16		
			(+)-Catechin	1.25	13	0.61	0.00	6.74	B	16, 245, 256, 275		
			(+)-Galocatechin	0.00	2		0.00	0.00	B	16		
		Flavanones	Eriodictyol	0.00	6		0.00	0.00	B	189		
			Hesperetin	0.00	6		0.00	0.00	B	189		
			Naringenin	0.00	6		0.00	0.00	B	189		
		Flavones	Apigenin	0.00	4		0.00	0.00	B	115, 239		
			Luteolin	0.00	4		0.00	0.00	B	115, 239		
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	115, 239		
			Myricetin	0.01	4	0.01	0.00	0.05	B	115, 239		
			Quercetin	0.58	23	0.14	0.00	3.01	B	115, 189, 212, 239, 245, 256, 275		
		99007	Juice, black Currant	Anthocyanidins	Cyanidin	29.76	2	13.72	16.05	43.48	C	129, 130
					Delphinidin	45.27	2	17.47	27.80	62.74	C	129, 130
Flavonols	Myricetin			1.86	4	0.66	0.66	3.16	B	107		
	Quercetin			1.15	4	0.46	0.65	2.52	B	107		
99359	Juice, blackberry	Anthocyanidins	Cyanidin	27.58	10	4.54	7.87	52.62	B	78, 130		
99313	Juice, blood orange	Anthocyanidins	Cyanidin	5.47	5	2.78	0.77	16.00	B	139, 219		

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			Delphinidin	0.75	2	0.50	0.25	1.26	C	139
			Peonidin	0.43	2	0.33	0.10	0.76	C	139
		Flavanones	eriodictyol	0.00	13		0.00	0.00	B	22, 187
			hesperetin	12.72	65	1.45	5.33	18.57	B	22, 139, 186, 187, 219
			naringenin	1.63	65	0.18	0.63	3.85	B	22, 139, 186, 187, 219
		Flavones	apigenin	0.00	2		0.00	0.00	C	22
		Flavonols	quercetin	0.00	2		0.00	0.00	C	22
14242	Juice, Cranberry cocktail, bottled	Anthocyanidins	Cyanidin	0.37	4	0.15	0.37	0.38	C	85, 189
			Delphinidin	0.01	4	0.01	0.00	0.03	C	85, 189
			Malvidin	0.00	3		0.00	0.00	C	189
			Pelargonidin	0.03	1		0.03	0.03	C	85
			Peonidin	0.41	3		0.41	0.41	C	189
			Petunidin	0.00	3		0.00	0.00	C	189
		Flavan-3-ols	(-)-Epicatechin	0.99	3		0.99	0.99	C	189
			(+)-Catechin	0.19	1		0.19	0.19	C	44
		Flavones	Apigenin	0.01	1		0.01	0.01	C	85
			Luteolin	0.03	1		0.03	0.03	C	85
		Flavonols	Kaempferol	0.01	1		0.01	0.01	C	85
			Myricetin	0.23	5	0.14	0.04	0.75	B	44, 85, 189
			Quercetin	2.20	5	0.81	1.13	2.82	B	44, 85, 189
99110	Juice, cranberry, raw	Flavan-3-ols	(+)-Catechin	0.92	1		0.92	0.92	C	44
		Flavonols	Myricetin	4.41	1		4.41	4.41	C	44
			Quercetin	16.41	1		16.41	16.41	C	44
99066	Juice, crowsberry	Flavonols	Myricetin	3.49	2	0.02	3.46	3.51	C	107
			Quercetin	3.88	2	0.12	3.76	3.99	C	107
99049	Juice, grape, black	Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	16
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	16
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	16
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	16
			(+)-Catechin	0.80	2	0.05	0.75	0.85	B	16
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	16
09135	Juice, grape, canned or bottled, unsweetened, without added ascorbic acid	Anthocyanidins	Cyanidin	0.89	13	0.18	0.07	1.94	B	52, 85, 189
			Delphinidin	1.92	13	0.39	0.38	4.24	B	52, 85, 189
			Malvidin	11.17	11	2.73	0.05	21.77	B	52, 189
			Pelargonidin	0.02	2		0.02	0.02	B	85
			Peonidin	1.06	11	0.28	0.43	1.80	B	52, 189
			Petunidin	1.02	3		1.02	1.02	C	189
		Flavan-3-ols	(-)-Epicatechin	0.56	27	0.07	0.00	2.07	B	52, 189

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			(+)-Catechin	0.82	24	0.10	0.08	3.17	B	52
		Flavones	Apigenin	0.01	3	0.00	0.00	0.01	B	85, 115
			Luteolin	0.01	3	0.00	0.00	0.02	B	85, 115
		Flavonols	Kaempferol	0.01	3	0.00	0.00	0.01	B	85, 115
			Myricetin	0.70	6	0.20	0.03	1.19	B	85, 115, 189
			Quercetin	0.72	6	0.24	0.41	0.80	B	85, 115, 189
99436	Juice, grape, red	Anthocyanidins	Cyanidin	0.04	3		0.04	0.04	C	189
			Delphinidin	0.10	3		0.10	0.10	C	189
			Malvidin	0.08	3		0.08	0.08	C	189
			Peonidin	0.17	3		0.17	0.17	C	189
			Petunidin	0.10	3		0.10	0.10	C	189
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	189
		Flavonols	Myricetin	0.16	3		0.16	0.16	C	189
			Quercetin	0.53	3		0.53	0.53	C	189
99050	Juice, grape, white	Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	16, 257
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	16
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	16
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	16
			(+)-Catechin	0.17	2	0.02	0.16	0.19	B	16, 257
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	16
		Flavonols	Quercetin	0.09	4	0.09	0.00	0.36	C	189, 257
09126	Juice, grapefruit concentrate, white, frozen, unsweetened, diluted with 3 volume water	Flavanones	naringenin	31.18	2	0.70	30.48	31.89	C	35
09404	Juice, grapefruit, pink, raw	Flavanones	eriodictyol	0.00	24		0.00	0.00	B	22, 187
			hesperetin	0.78	28	0.11	0.44	2.32	B	22, 59, 187
			naringenin	17.19	28	1.91	9.67	62.58	B	22, 59, 187
		Flavones	apigenin	0.00	1		0.00	0.00	C	22
		Flavonols	quercetin	0.00	1		0.00	0.00	C	22
09123	Juice, grapefruit, white, canned, unsweetened	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	189
		Flavanones	Eriodictyol	0.16	3		0.16	0.16	C	189
			hesperetin	0.81	6	0.18	0.47	1.68	B	20, 189, 236
			naringenin	18.01	531	0.77	5.20	26.33	B	20, 65, 189, 236, 237
		Flavonols	Quercetin	0.36	5	0.24	0.00	1.16	B	20, 189
09128	Juice, grapefruit, white, raw	Flavanones	eriodictyol	0.65	29	0.38	0.00	11.36	B	22, 187, 188
			hesperetin	2.35	44	0.96	0.00	34.93	B	22, 187, 188, 277
			Naringenin	18.23	47	1.53	0.00	58.03	B	21, 22, 187, 188, 277
		Flavones	apigenin	0.00	9		0.00	0.00	B	22, 115

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			Luteolin	0.00	1		0.00	0.00	B	115
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	115
			Myricetin	0.05	1		0.05	0.05	B	115
			quercetin	0.40	24	0.06	0.00	0.74	B	22, 115, 277
09153	Juice, lemon, canned or bottled		Flavanones	eriodictyol	10.56	40	0.57	3.77	19.01	B
		hesperetin		13.43	41	0.95	0.70	20.63	B	20, 104, 175
		Naringenin		0.00	1		0.00	0.00	C	20
		Flavones	Luteolin	1.83	18	0.34	0.70	3.02	B	175
			Quercetin	0.00	1		0.00	0.00	C	20
09152	Juice, lemon, raw	Flavan-3-ols	(+)-Catechin	0.00	1		0.00	0.00	C	1
		Flavanones	eriodictyol	4.88	31	0.19	0.00	14.70	B	22, 104, 187
			hesperetin	14.47	32	4.83	1.90	142.24	B	1, 22, 104, 187
			naringenin	1.38	28	0.72	0.00	18.22	B	1, 22, 187
		Flavones	apigenin	0.00	10		0.00	0.00	B	22, 115
			Luteolin	0.00	1		0.00	0.00	B	115
		Flavonols	Kaempferol	0.00	2		0.00	0.00	B	1, 115
			Myricetin	0.02	2	0.02	0.00	0.05	B	1, 115
			quercetin	0.37	10	0.21	0.00	1.81	B	1, 22, 115
09160	Juice, lime, raw	Flavanones	eriodictyol	2.19	20	0.41	0.00	3.52	B	22, 187
			hesperetin	8.97	20	0.06	5.18	21.37	B	22, 187
			naringenin	0.38	23	0.20	0.00	4.62	B	22, 187, 304
		Flavones	Apigenin	0.00	6		0.00	0.00	C	22
		Flavonols	Quercetin	0.51	6	0.33	0.00	1.78	C	22
99067	Juice, lingonberry	Flavonols	Quercetin	1.02	2	0.09	0.93	1.10	C	107
09209	Juice, orange, chilled, includes from concentrate	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	189
		Flavanones	Eriodictyol	0.05	3		0.05	0.05	C	189
			hesperetin	16.38	49	1.79	0.53	25.75	B	20, 89, 189, 241, 277
			naringenin	2.56	49	0.27	0.11	3.56	B	20, 89, 189, 241, 277
		Flavonols	Quercetin	0.40	6	0.09	0.18	0.68	B	20, 189
09215	Juice, orange, frozen concentrate, unsweetened, diluted with 3 volume water	Flavanones	hesperetin	26.21	14	1.43	15.35	32.59	A	35, 198, 220
			naringenin	3.27	14	0.14	2.56	4.38	A	35, 198, 220
09206	Juice, orange, raw	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	189
		Flavanones	eriodictyol	0.17	130	0.02	0.00	1.88	B	22, 38, 176, 187, 189
			hesperetin	11.95	247	0.42	1.32	39.20	A	20, 22, 38, 59, 61, 89, 134, 176, 187, 189, 219, 220, 241, 242, 277
			naringenin	2.14	247	0.09	0.00	6.37	A	20, 22, 38, 59, 61, 89, 134, 176, 187, 189, 219, 220, 241, 242,

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										277
		Flavones	apigenin	0.00	20		0.00	0.00	B	22, 115
			Luteolin	0.00	2		0.00	0.00	B	115
		Flavonols	Kaempferol	0.00	2		0.00	0.00	B	115
			Myricetin	0.05	2		0.05	0.05	B	115
			quercetin	0.25	27	0.10	0.00	2.20	B	20, 22, 38, 115, 189
09442	Juice, pomegranate, bottled	Anthocyanidins	Cyanidin	2.40	18	0.64	0.54	8.87	B	3, 189
			Delphinidin	0.81	18	0.25	0.00	3.92	B	3, 189
			Malvidin	0.00	3		0.00	0.00	C	189
			Pelargonidin	0.09	15	0.03	0.02	0.39	B	3
			Peonidin	0.00	3		0.00	0.00	C	189
			Petunidin	0.00	3		0.00	0.00	C	189
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	189
		Flavonols	Myricetin	0.00	3		0.00	0.00	C	189
			Quercetin	1.11	3		1.11	1.11	C	189
99311	Juice, pummelo, raw	Flavanones	eriodictyol	2.86	12	1.90	0.00	23.33	C	22, 193
			hesperetin	1.79	12	0.86	0.00	9.36	C	22, 193
			naringenin	25.31	13	9.51	1.94	132.86	B	22, 193, 304
		Flavones	apigenin	0.65	12	0.31	0.00	2.80	C	22, 193
			luteolin	0.00	1		0.00	0.00	C	193
		Flavonols	kaempferol	0.00	1		0.00	0.00	C	193
			quercetin	0.00	12		0.00	0.00	C	22, 193
99626	Juice, raspberry, red	Anthocyanidins	Cyanidin	18.04	1		18.04	18.04	C	130
			Pelargonidin	1.09	1		1.09	1.09	C	130
99610	Juice, sour cherry	Anthocyanidins	Cyanidin	26.28	6	6.53	15.28	58.42	C	130, 293
			Peonidin	0.73	5	0.12	0.45	1.08	C	293
		Flavan-3-ols	(-)-Epicatechin	12.97	5	5.73	1.59	34.31	C	293
			(+)-Catechin	3.18	5	1.12	0.37	7.16	C	293
		Flavonols	Quercetin	3.88	5	0.80	1.77	6.08	C	293
99304	Juice, sour orange	Flavanones	eriodictyol	14.54	3	2.54	9.77	18.44	C	22, 188
			hesperetin	10.74	3	4.88	1.50	18.11	C	22, 188
			naringenin	23.77	3	4.66	18.64	33.08	C	22, 188
		Flavones	apigenin	0.00	2		0.00	0.00	C	22
		Flavonols	quercetin	0.00	2		0.00	0.00	C	22
99437	Juice, strawberry	Anthocyanidins	Cyanidin	0.47	1		0.47	0.47	C	130
			Pelargonidin	11.79	1		11.79	11.79	C	130
99305	Juice, tangelo	Flavanones	eriodictyol	1.20	1		1.20	1.20	D	22
			hesperetin	74.89	1		74.89	74.89	D	22

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			naringenin	42.51	1		42.51	42.51	D	22
		Flavones	apigenin	0.00	1		0.00	0.00	D	22
		Flavonols	quercetin	0.00	1		0.00	0.00	D	22
09225	Juice, tangerine, frozen concentrate, sweetened, diluted with 3 volume water	Flavanones	hesperetin	22.01	13	2.94	5.94	47.08	B	198
			naringenin	3.61	13	0.75	1.04	7.96	B	198
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.11	1		0.11	0.11	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
09221	Juice, tangerine, raw	Flavanones	eriodictyol	0.02	5	0.02	0.00	0.10	C	22, 193
			hesperetin	17.11	7	5.01	4.31	36.28	B	22, 61, 193
			naringenin	1.37	8	0.89	0.00	7.22	B	22, 61, 193, 304
		Flavones	apigenin	0.00	5		0.00	0.00	C	22, 193
			luteolin	0.00	1		0.00	0.00	C	193
		Flavonols	kaempferol	0.00	1		0.00	0.00	C	193
			quercetin	0.29	5	0.29	0.00	1.44	C	22, 193
99306	Juice, tangor (e.g., murcot or temple)	Flavanones	eriodictyol	1.02	1		1.02	1.02	C	22
			hesperetin	19.25	7	3.16	7.98	32.45	C	22, 198
			naringenin	6.50	7	1.02	3.77	11.03	C	22, 198
		Flavones	apigenin	0.00	1		0.00	0.00	C	22
		Flavonols	quercetin	0.00	1		0.00	0.00	C	22
99316	Juice, tangor, diluted from frozen concentrate (ex. Murcot or temple)	Flavanones	hesperetin	19.06	5	4.38	7.98	32.45	C	198
			naringenin	7.04	5	1.33	3.95	11.03	C	198
09146	Jujube, raw ( <i>Ziziphus jujuba</i> )	Flavan-3-ols	(-)-Epicatechin	0.31	4	0.06	0.19	0.48	C	240
			(+)-Catechin	3.21	4	0.27	2.46	3.74	C	240
		Flavonols	Quercetin	1.26	4	0.29	0.44	1.78	C	240
99615	Juniper berries, green, unripe ( <i>Juniperus communis</i> )	Flavones	Apigenin	7.26	3	2.93	4.03	13.10	C	126
			Luteolin	51.40	3	3.47	45.99	57.86	C	126
		Flavonols	Quercetin	42.81	3	10.71	24.95	61.98	C	126
99614	Juniper berries, ripe ( <i>Juniperus communis</i> )	Flavones	Apigenin	5.57	3	2.54	0.58	8.90	C	126
			Luteolin	69.05	3	20.79	28.27	96.49	C	126
		Flavonols	Quercetin	46.61	3	6.33	35.55	57.48	C	126
09445	Kiwifruit, gold, raw ( <i>Actinidia chinensis</i> )	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	110
			Delphinidin	0.00	1		0.00	0.00	B	110
			Malvidin	0.00	1		0.00	0.00	B	110
			Pelargonidin	0.00	1		0.00	0.00	B	110
			Peonidin	0.00	1		0.00	0.00	B	110
			Petunidin	0.00	1		0.00	0.00	B	110

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		Flavan-3-ols	(-)-Epicatechin	0.64	1		0.64	0.64	B	110	
			Flavan-3-ols	(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	110
				(-)-Epigallocatechin	0.00	1		0.00	0.00	B	110
				(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	110
				(+)-Catechin	0.00	1		0.00	0.00	B	110
				(+)-Gallocatechin	0.00	1		0.00	0.00	B	110
				Flavanones	Hesperetin	0.00	1		0.00	0.00	B
			Naringenin		0.00	1		0.00	0.00	B	110
			Flavones	Apigenin	0.00	1		0.00	0.00	B	110
				Luteolin	0.00	1		0.00	0.00	B	110
			Flavonols	Myricetin	0.00	1		0.00	0.00	B	110
				Quercetin	0.00	1		0.00	0.00	B	110
09148	Kiwifruit, green, raw ( <i>Actinidia deliciosa</i> )		Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	110
				Delphinidin	0.00	2		0.00	0.00	B	110
		Malvidin		0.00	2		0.00	0.00	B	110	
		Pelargonidin		0.00	2		0.00	0.00	B	110	
		Peonidin		0.00	2		0.00	0.00	B	110	
		Petunidin		0.00	2		0.00	0.00	B	110	
		Flavan-3-ols	(-)-Epicatechin	0.27	12	0.05	0.00	0.45	A	15, 58, 110	
			(-)-Epicatechin 3-gallate	0.01	12	0.01	0.00	0.08	A	15, 58, 110	
			(-)-Epigallocatechin	0.00	12		0.00	0.00	A	15, 58, 110	
			(-)-Epigallocatechin 3-gallate	0.09	12	0.09	0.00	1.11	A	15, 58, 110	
			(+)-Catechin	0.00	12		0.00	0.00	A	15, 58, 110	
			(+)-Gallocatechin	0.00	12		0.00	0.00	A	15, 58, 110	
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110	
			Naringenin	0.00	5		0.00	0.00	B	110	
		Flavones	Apigenin	0.00	3		0.00	0.00	B	110, 169	
			Luteolin	0.74	3	0.74	0.00	2.23	C	12, 110, 169	
		Flavonols	Kaempferol	1.03	3	1.02	0.00	3.06	C	12, 141, 169	
			Myricetin	0.00	5		0.00	0.00	B	12, 110, 141, 169	
Quercetin	0.04		5	0.04	0.00	0.21	B	12, 110, 141, 169			
99608	Kiwifruit, red, raw ( <i>Actinidia chinensis</i> )	Anthocyanidins	Cyanidin	1.65	25	0.49	0.00	8.96	C	184	
09149	Kumquats, raw ( <i>Fortunella spp.</i> )	Flavanones	Naringenin	57.39	3		57.39	57.39	C	238	
		Flavones	Apigenin	21.87	3		21.87	21.87	C	238	
09150	Lemons, raw, without peel ( <i>Citrus limon</i> )	Flavanones	Eriodictyol	21.36	2	3.76	17.60	25.13	B	179, 278	
			Hesperetin	27.90	3	10.80	17.00	49.51	B	134, 179, 278	
			Naringenin	0.55	2	0.05	0.50	0.60	B	134, 179	



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		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	1.90	2	0.40	1.50	2.31	B	169, 179
		Flavonols	Kaempferol	0.03	2	0.03	0.00	0.06	C	141, 169
			Myricetin	0.50	2	0.50	0.00	1.00	C	141, 169
			Quercetin	1.14	4	0.82	0.00	3.47	C	141, 169, 179, 278
09159	Limes, raw ( <i>Citrus latifolia</i> )	Flavanones	Hesperetin	43.00	1		43.00	43.00	C	134
			Naringenin	3.40	1		3.40	3.40	C	134
		Flavonols	Quercetin	0.40	1		0.40	0.40	C	134
99021	Lingonberries (cowberries), raw	Anthocyanidins	Cyanidin	40.15	2	4.06	36.08	44.21	C	137, 307
		Flavonols	Kaempferol	0.38	4	0.25	0.00	1.03	C	109, 134, 307
			Myricetin	0.00	2		0.00	0.00	C	109
			Quercetin	13.30	12	1.79	7.36	21.00	B	107, 109, 134, 179, 307
99640	Malacca apple, raw ( <i>Syzygium malaccense</i> )	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
09176	Mangos, raw ( <i>Mangifera indica</i> )	Anthocyanidins	Cyanidin	0.10	1		0.10	0.10	C	85
			Delphinidin	0.02	1		0.02	0.02	C	85
			Pelargonidin	0.02	1		0.02	0.02	C	85
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	1.72	4		1.72	1.72	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.05	3	0.04	0.01	0.13	B	85, 152
			Myricetin	0.06	3	0.03	0.03	0.13	B	85, 152
			Quercetin	0.00	3		0.00	0.00	B	85, 152
99636	Maqui (Chilean wineberry), raw ( <i>Aristotelia chilensis</i> )	Anthocyanidins	Cyanidin	22.37	3		22.37	22.37	C	74
			Delphinidin	66.15	3		66.15	66.15	C	74
97005	Medlar	Flavan-3-ols	(-)-Epicatechin	0.53	3		0.53	0.53	C	58
			(-)-Epicatechin 3-gallate	0.23	3		0.23	0.23	C	58
			(-)-Epigallocatechin	0.01	3		0.01	0.01	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.02	3		0.02	0.02	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
09181	Melons, cantaloupe, raw	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	110

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	<i>(Cucumis melo)</i>		Delphinidin	0.00	3		0.00	0.00	B	110
			Malvidin	0.00	3		0.00	0.00	B	110
			Pelargonidin	0.00	3		0.00	0.00	B	110
			Peonidin	0.00	3		0.00	0.00	B	110
			Petunidin	0.00	3		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	10		0.00	0.00	A	110, 269
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(+)-Catechin	0.00	10		0.00	0.00	A	110, 269
		Flavanones	(+)-Gallocatechin	0.00	7		0.00	0.00	B	110
			Hesperetin	0.00	7		0.00	0.00	B	110
		Flavones	Naringenin	0.00	7		0.00	0.00	B	110
			Apigenin	0.00	5		0.00	0.00	B	110, 169, 239
		Flavonols	Luteolin	0.64	4	0.64	0.00	2.58	B	110, 169, 239
			Kaempferol	0.07	3	0.07	0.00	0.21	C	141, 169, 239
			Myricetin	0.00	6		0.00	0.00	B	110, 141, 169, 239
09184	Melons, honeydew, raw <i>(Cucumis melo)</i>	Anthocyanidins	Quercetin	0.01	6	0.01	0.00	0.07	B	110, 141, 169, 239
			Cyanidin	0.00	2		0.00	0.00	B	110
			Delphinidin	0.00	2		0.00	0.00	B	110
			Malvidin	0.00	2		0.00	0.00	B	110
			Pelargonidin	0.00	2		0.00	0.00	B	110
			Peonidin	0.00	2		0.00	0.00	B	110
		Flavan-3-ols	Petunidin	0.00	2		0.00	0.00	B	110
			(-)-Epicatechin	0.01	5	0.01	0.00	0.03	B	110
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin	0.04	5	0.04	0.00	0.22	B	110
			(-)-Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(+)-Catechin	0.00	5		0.00	0.00	B	110
		Flavanones	(+)-Gallocatechin	0.00	5		0.00	0.00	B	110
			Hesperetin	0.00	5		0.00	0.00	B	110
		Flavones	Naringenin	0.00	5		0.00	0.00	B	110
			Apigenin	0.00	2		0.00	0.00	B	110
		Flavonols	Luteolin	0.00	1		0.00	0.00	B	110
Myricetin	0.00		2		0.00	0.00	B	110		
Quercetin	0.00		2		0.00	0.00	B	110		
99641	Molucca raspberry, raw <i>(Rubus moluccanus var.)</i>	Anthocyanidins	Cyanidin	90.17	1		90.17	90.17	C	191
			Pelargonidin	4.07	1		4.07	4.07	C	191

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	<i>austropacificus</i>									
09190	Mulberries, raw ( <i>Morus nigra</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169
			Quercetin	2.47	1		2.47	2.47	C	169
99632	Muntries (emu apple, native cranberry, or munthar), raw	Anthocyanidins	Cyanidin	17.88	1		17.88	17.88	C	191
			Delphinidin	6.89	1		6.89	6.89	C	191
09191	Nectarines, raw ( <i>Prunus persica</i> var. <i>nucipersica</i> )	Anthocyanidins	Cyanidin	2.13	45	0.22	0.00	7.63	B	110, 264, 294
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	2.54	41	0.28	0.00	5.88	B	15, 110, 264
			(-)-Epicatechin 3-gallate	0.00	11		0.00	0.00	B	15, 110
			(-)-Epigallocatechin	0.00	11		0.00	0.00	B	15, 110
			(-)-Epigallocatechin 3-gallate	0.00	11		0.00	0.00	B	15, 110
			(+)-Catechin	2.98	41	0.28	0.14	9.39	B	15, 110, 264
			(+)-Gallocatechin	0.00	12		0.00	0.00	B	15, 110
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	110
			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	8		0.00	0.00	B	110
			Luteolin	0.00	4		0.00	0.00	B	110
Flavonols	Myricetin	0.00	8		0.00	0.00	B	110		
	Quercetin	0.69	38	0.05	0.00	2.08	B	110, 264		
97049	Nectarines, white, whole, raw ( <i>Prunus persica</i> var. <i>nucipersica</i> )	Anthocyanidins	Cyanidin	0.74	30	0.10	0.29	1.44	B	264
		Flavan-3-ols	(-)-Epicatechin	3.06	30	0.45	1.75	5.39	B	264
			(+)-Catechin	7.58	30	0.82	0.12	24.29	B	264
		Flavonols	Quercetin	0.37	30	0.05	0.10	0.66	B	264
99651	Nectarines, without skin, raw ( <i>Prunus persica</i> var. <i>nucipersica</i> )	Flavonols	Kaempferol	0.04	1		0.04	0.04	D	141
			Myricetin	0.00	1		0.00	0.00	D	141
			Quercetin	0.08	1		0.08	0.08	D	141
09195	Olives, pickled, canned or bottled, green	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15

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		Flavones	Luteolin	0.56	7	0.13	0.20	1.20	B	28
99660	Olives, pickled, canned or bottled, kalamata	Flavones	Luteolin	4.93	8	0.52	3.20	7.40	B	28
09193	Olives, ripe, canned (small-extra large) ( <i>Olea europaea</i> )	Flavones	Luteolin	2.80	3	0.15	2.60	3.10	C	28
09200	Oranges, raw, all commercial varieties ( <i>Citrus sinensis</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavanones	Hesperetin	27.25	22	4.33	11.74	47.09	B	11, 59, 85, 134, 179, 238
			Naringenin	15.32	22	1.76	3.65	45.42	B	11, 59, 85, 134, 179, 238
		Flavones	Apigenin	0.00	23	0.00	0.00	0.01	B	85, 169, 230
			Luteolin	0.19	24	0.05	0.00	1.50	B	12, 85, 169, 230
		Flavonols	Kaempferol	0.13	25	0.13	0.00	3.15	B	12, 85, 141, 169, 230
			Myricetin	0.15	25	0.10	0.00	2.19	B	12, 85, 141, 169, 230
			Quercetin	0.45	27	0.02	0.00	1.75	B	11, 12, 85, 141, 169, 230
09202	Oranges, raw, navels ( <i>Citrus sinensis</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	111
			Delphinidin	0.00	3		0.00	0.00	B	111
			Malvidin	0.00	3		0.00	0.00	B	111
			Pelargonidin	0.00	3		0.00	0.00	B	111
			Peonidin	0.00	3		0.00	0.00	B	111
			Petunidin	0.00	3		0.00	0.00	B	111
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	B	111
			(-)-Epigallocatechin	0.00	3		0.00	0.00	B	111
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	111
			(+)-Catechin	0.00	3		0.00	0.00	B	111
			(+)-Gallocatechin	0.00	3		0.00	0.00	B	111
			(+)-Gallocatechin 3-gallate	0.00	3		0.00	0.00	B	111
		Flavanones	Hesperetin	21.87	6	6.52	7.76	30.69	B	85, 111
			Naringenin	7.10	6	2.22	2.25	11.40	B	85, 111
		Flavones	Apigenin	0.00	6	0.00	0.00	0.01	B	85, 111
			Luteolin	0.70	6	0.18	0.00	1.40	B	85, 111
		Flavonols	Kaempferol	0.01	3		0.01	0.01	C	85
			Myricetin	0.01	6	0.00	0.00	0.03	B	85, 111
			Quercetin	0.20	6	0.05	0.00	0.40	B	85, 111

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09226	Papayas, raw ( <i>Carica papaya</i> )	Flavones	Apigenin	0.01	4		0.01	0.01	C	85		
			Luteolin	0.02	4		0.02	0.02	C	85		
		Flavonols	Kaempferol	0.01	5	0.00	0.00	0.01	C	85, 152		
			Myricetin	0.02	5	0.01	0.00	0.03	C	85, 152		
			Quercetin	0.00	5		0.00	0.00	C	85, 152		
09370	Peaches, canned, heavy syrup, drained	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15		
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15		
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15		
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15		
			(+)-Catechin	1.87	1		1.87	1.87	C	15		
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15		
		Flavones	Apigenin	0.00	4		0.00	0.00	B	116		
			Luteolin	0.00	4		0.00	0.00	B	116		
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116		
			Myricetin	0.00	4		0.00	0.00	B	116		
			Quercetin	0.00	4		0.00	0.00	B	116		
		09236	Peaches, raw ( <i>Prunus persica</i> )	Anthocyanidins	Cyanidin	1.92	45	0.19	0.00	6.71	B	110, 264, 294
					Delphinidin	0.00	7		0.00	0.00	B	110
Malvidin	0.00				7		0.00	0.00	B	110		
Pelargonidin	0.00				7		0.00	0.00	B	110		
Peonidin	0.00				7		0.00	0.00	B	110		
Petunidin	0.00				7		0.00	0.00	B	110		
Flavan-3-ols	(-)-Epicatechin			2.34	49	0.21	0.00	6.92	B	15, 58, 110, 264, 269		
	(-)-Epicatechin 3-gallate			0.00	14	0.00	0.00	0.01	A	15, 58, 110		
	(-)-Epigallocatechin			1.04	14	0.32	0.00	3.34	A	15, 58, 110		
	(-)-Epigallocatechin 3-gallate			0.30	14	0.16	0.00	2.01	A	15, 58, 110		
	(+)-Catechin			4.92	49	0.51	0.53	10.12	B	15, 58, 110, 264, 269		
	(+)-Gallocatechin			0.00	14		0.00	0.00	A	15, 58, 110		
Flavanones	Hesperetin			0.00	7		0.00	0.00	B	110		
	Naringenin			0.00	7		0.00	0.00	B	110		
Flavones	Apigenin			0.00	9		0.00	0.00	B	110, 116, 169		
	Luteolin			0.00	7		0.00	0.00	B	12, 110, 116, 169		
Flavonols	Kaempferol			0.22	3	0.22	0.00	0.65	C	12, 116, 169		
	Myricetin			0.00	10		0.00	0.00	B	12, 110, 116, 169		
	Quercetin			0.66	40	0.07	0.00	1.23	B	12, 110, 116, 169, 264		
97054	Peaches, white, whole, raw			Anthocyanidins	Cyanidin	0.97	30	0.14	0.42	1.81	B	264
				Flavan-3-ols	(-)-Epicatechin	4.09	30	0.61	2.26	6.19	B	264
		Flavan-3-ols	(+)-Catechin	12.25	30	1.74	4.62	20.82	B	264		

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		Flavonols	Quercetin	0.45	30	0.07	0.10	0.71	B	264
99029	Pears without skin, raw	Flavan-3-ols	(-)-Epicatechin	1.74	12	0.43	0.82	2.96	B	15
			(-)-Epicatechin 3-gallate	0.00	12		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	12		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	12		0.00	0.00	B	15
			(+)-Catechin	0.14	12	0.03	0.01	0.36	B	15
			(+)-Gallocatechin	0.00	12		0.00	0.00	B	15
09252	Pears, raw ( <i>Pyrus communis</i> )	Anthocyanidins	Cyanidin	2.06	8	0.41	0.00	3.50	A	110
			Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.00	8		0.00	0.00	A	110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	3.76	50	0.32	0.10	17.74	B	4, 15, 58, 110, 245, 269
			(-)-Epicatechin 3-gallate	0.02	28	0.02	0.00	0.50	A	15, 58, 110
			(-)-Epigallocatechin	0.59	28	0.25	0.00	5.07	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.17	28	0.12	0.00	2.52	A	15, 58, 110
			(+)-Catechin	0.27	47	0.04	0.00	2.32	B	4, 15, 58, 110, 269
			(+)-Gallocatechin	0.00	28		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.00	6		0.00	0.00	B	110
		Flavones	Apigenin	0.00	12		0.00	0.00	A	110, 116, 169
			Luteolin	0.00	8		0.00	0.00	B	110, 116, 169
		Flavonols	Isorhamnetin	0.30	3	0.16	0.06	0.60	C	245
			Kaempferol	0.00	5		0.00	0.00	B	116, 141, 169
			Myricetin	0.00	13		0.00	0.00	A	110, 116, 141, 169
			Quercetin	0.84	16	0.26	0.00	3.40	B	110, 116, 141, 169, 245
99080	Pears, without skin, cooked	Flavan-3-ols	(-)-Epicatechin	2.12	4		2.12	2.12	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.33	4		0.33	0.33	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
97088	Persimmons, raw	Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.63	3		0.63	0.63	C	58

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			(+)-Gallocatechin	0.17	3		0.17	0.17	C	58
		Flavones	Luteolin	0.14	1		0.14	0.14	C	12
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	12
			Myricetin	1.06	1		1.06	1.06	C	12
			Quercetin	0.00	1		0.00	0.00	C	12
09273	Pineapple juice, canned, unsweetened, without added ascorbic acid	Flavonols	Quercetin	0.00	3		0.00	0.00	C	189
09266	Pineapple, raw, all varieties ( <i>Ananas comosus</i> )	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	110
			Delphinidin	0.00	1		0.00	0.00	B	110
			Malvidin	0.00	1		0.00	0.00	B	110
			Pelargonidin	0.00	1		0.00	0.00	B	110
			Peonidin	0.00	1		0.00	0.00	B	110
			Petunidin	0.00	1		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	8		0.00	0.00	B	15, 58, 110
			(-)-Epicatechin 3-gallate	0.00	8		0.00	0.00	B	15, 58, 110
			(-)-Epigallocatechin	0.00	8		0.00	0.00	B	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.00	8		0.00	0.00	B	15, 58, 110
			(+)-Catechin	0.00	8		0.00	0.00	B	15, 58, 110
			(+)-Gallocatechin	0.00	8		0.00	0.00	B	15, 58, 110
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	110
			Naringenin	0.00	1		0.00	0.00	B	110
		Flavones	Apigenin	0.00	2	0.00	0.00	0.01	B	85, 110
			Luteolin	0.01	2	0.01	0.00	0.02	B	85, 110
		Flavonols	Kaempferol	0.00	2	0.00	0.00	0.01	B	85, 152
			Myricetin	0.01	3	0.01	0.00	0.03	B	85, 110, 152
			Quercetin	0.14	3	0.14	0.00	0.42	B	85, 110, 152
09430	Pineapple, raw, extra sweet variety ( <i>Ananas comosus</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	110
			Delphinidin	0.00	3		0.00	0.00	B	110
			Malvidin	0.00	3		0.00	0.00	B	110
			Pelargonidin	0.00	3		0.00	0.00	B	110
			Peonidin	0.00	3		0.00	0.00	B	110
			Petunidin	0.00	3		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	5		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(+)-Catechin	0.00	5		0.00	0.00	B	110

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			(+)-Gallocatechin	0.00	5		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	0.00	3		0.00	0.00	B	110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	3		0.00	0.00	B	110
			Quercetin	0.00	3		0.00	0.00	B	110
99276	Pitanga, (surinam-cherry), raw ( <i>Eugenia uniflora</i> )	Flavones	Apigenin	0.00	7		0.00	0.00	C	230
			Luteolin	0.00	7		0.00	0.00	C	230
		Flavonols	Kaempferol	0.40	7		0.40	0.40	C	230
			Myricetin	3.36	7	1.15	3.10	3.70	C	230
		Quercetin	5.80	7	1.99	5.50	6.20	C	230	
99621	Plum, Davidson's, raw ( <i>Davodsonia pruriens</i> )	Anthocyanidins	Cyanidin	28.42	1		28.42	28.42	C	191
			Delphinidin	11.03	1		11.03	11.03	C	191
			Peonidin	7.52	1		7.52	7.52	C	191
			Petunidin	1.99	1		1.99	1.99	C	191
99639	Plum, Illawara, raw ( <i>Podocarpus elatus</i> )	Anthocyanidins	Cyanidin	555.72	1		555.72	555.72	C	191
			Pelargonidin	2.47	1		2.47	2.47	C	191
97043	Plum, red, whole, raw	Anthocyanidins	Cyanidin	4.73	30	0.61	0.62	13.93	B	48, 85, 264
			Delphinidin	0.02	2		0.02	0.02	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85
			Peonidin	2.21	4		2.21	2.21	C	48
		Flavones	Apigenin	0.01	3	0.00	0.00	0.01	C	85, 169
			Luteolin	0.01	3	0.00	0.00	0.02	C	85, 169
		Flavonols	Kaempferol	0.01	4	0.00	0.00	0.01	C	85, 141, 169
			Myricetin	0.01	4	0.00	0.00	0.03	C	85, 141, 169
		Quercetin	1.79	32	0.19	0.00	7.04	B	48, 85, 141, 169, 264	
97046	Plum, yellow, whole, raw ( <i>Prunus domestica</i> )	Anthocyanidins	Cyanidin	0.28	115	0.03	0.00	0.43	B	48, 254, 264
			Peonidin	0.02	109	0.00	0.00	0.03	C	48, 254
		Flavonols	Kaempferol	0.10	12	0.02	0.06	0.17	B	167
			Myricetin	0.10	12	0.02	0.07	0.11	B	167
		Quercetin	0.70	127	0.03	0.07	4.28	B	48, 167, 254, 264	
97077	Plums, black diamond, with peel, raw	Anthocyanidins	Cyanidin	56.03	6	22.88	6.40	139.35	B	85, 110, 294
			Delphinidin	0.01	4	0.00	0.00	0.02	B	85, 110
			Malvidin	0.00	2		0.00	0.00	B	110
			Pelargonidin	0.01	4	0.00	0.00	0.02	B	85, 110
			Peonidin	0.00	2		0.00	0.00	B	110
		Petunidin	0.00	2		0.00	0.00	B	110	



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		Flavan-3-ols	(-)-Epicatechin	2.44	2	2.44	0.00	4.88	B	110		
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110		
			(-)-Epigallocatechin	13.06	2	7.34	5.72	20.40	B	110		
			(-)-Epigallocatechin 3-gallate	0.48	2	0.48	0.00	0.97	B	110		
			(+)-Catechin	17.55	2	11.45	6.10	29.00	B	110		
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110		
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110		
			Naringenin	0.00	2		0.00	0.00	B	110		
		Flavones	Apigenin	0.00	4	0.00	0.00	0.01	B	85, 110		
			Luteolin	0.60	3	0.21	0.00	0.90	B	85, 110		
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85		
			Myricetin	0.01	4	0.00	0.00	0.03	B	85, 110		
			Quercetin	12.45	4	6.18	1.80	25.10	B	85, 110		
		09291	Plums, dried (prunes), uncooked	Anthocyanidins	Cyanidin	0.71	9	0.27	0.00	2.40	B	85, 110
Delphinidin	0.04				9	0.02	0.00	0.20	B	85, 110		
Malvidin	0.00				7		0.00	0.00	B	110		
Pelargonidin	0.00				9	0.00	0.00	0.02	B	85, 110		
Peonidin	0.00				7		0.00	0.00	B	110		
Petunidin	0.00				7		0.00	0.00	B	110		
Flavan-3-ols	(-)-Epicatechin			0.00	3		0.00	0.00	B	110		
	(-)-Epicatechin 3-gallate			0.00	3		0.00	0.00	B	110		
	(-)-Epigallocatechin			0.00	3		0.00	0.00	B	110		
	(-)-Epigallocatechin 3-gallate			0.00	3		0.00	0.00	B	110		
	(+)-Catechin			0.00	3		0.00	0.00	B	110		
	(+)-Gallocatechin			0.00	3		0.00	0.00	B	110		
Flavanones	Hesperetin			0.00	3		0.00	0.00	B	110		
	Naringenin			0.00	3		0.00	0.00	B	110		
Flavones	Apigenin			0.00	9	0.00	0.00	0.01	B	85, 110		
	Luteolin			0.01	6	0.00	0.00	0.02	B	85, 110		
Flavonols	Kaempferol			0.01	2		0.01	0.01	C	85		
	Myricetin			0.01	9	0.00	0.00	0.03	B	85, 110		
	Quercetin			1.80	9	0.60	0.00	4.00	B	85, 110		
99395	Plums, Greengage, raw			Flavones	Apigenin	0.00	2		<b>0.00</b>	0.00	C	169
					Luteolin	0.00	2		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	2		0.00	0.00	C	169		
			Myricetin	0.00	2		0.00	0.00	C	169		
			Quercetin	0.00	2		0.00	0.00	C	169		
99367	Plums, purple, raw	Anthocyanidins	Cyanidin	17.93	32	2.68	6.73	35.51	C	48		

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			Peonidin	5.21	32	0.77	1.56	11.52	C	48
		Flavonols	Quercetin	2.19	32	0.33	0.69	4.18	C	48
09279	Plums, raw ( <i>Prunus spp.</i> )	Anthocyanidins	Cyanidin	5.63	77	0.77	0.84	40.43	A	110, 254, 273, 294
			Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.31	69	0.04	0.00	2.10	B	110, 254, 273
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	3.20	20	0.49	0.00	10.38	A	15, 58, 110, 269
			(-)-Epicatechin 3-gallate	0.76	15	0.43	0.00	4.98	A	15, 58, 110
			(-)-Epigallocatechin	0.24	15	0.10	0.00	1.19	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.40	14	0.21	0.00	2.47	A	15, 58, 110
			(+)-Catechin	2.89	20	0.44	0.00	5.82	A	15, 58, 110, 269
			(+)-Gallocatechin	0.09	15	0.09	0.00	1.35	A	15, 58, 110
		Flavanones	Hesperetin	0.00	8		0.00	0.00	A	110
			Naringenin	0.00	8		0.00	0.00	A	110
		Flavones	Apigenin	0.00	10		0.00	0.00	A	110, 116, 169
			Luteolin	0.00	6		0.00	0.00	B	110, 116, 169
		Flavonols	Kaempferol	0.00	2		0.00	0.00	B	116, 169
Myricetin	0.00		10		0.00	0.00	A	110, 116, 169		
Quercetin	0.90		62	0.19	0.22	7.35	B	110, 116, 134, 169, 254		
09286	Pomegranates, raw ( <i>Punica granatum</i> )	Flavan-3-ols	(-)-Epicatechin	0.08	3		0.08	0.08	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.16	3		0.16	0.16	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.40	3		0.40	0.40	C	58
			(+)-Gallocatechin	0.17	3		0.17	0.17	C	58
		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169
			Myricetin	0.00	1		0.00	0.00	C	169
			Quercetin	0.00	1		0.00	0.00	C	169
09287	Prickly pears, raw ( <i>Opuntia spp.</i> )	Flavonols	Isorhamnetin	0.65	4	0.59	0.00	2.41	C	150
			Kaempferol	0.18	4	0.08	0.00	0.38	C	150
			Quercetin	4.86	4	1.66	0.98	9.05	C	150
09295	Pummelo, raw ( <i>Citrus maxima</i> )	Flavanones	Hesperetin	8.40	2		8.40	8.40	C	85
			Naringenin	24.72	2		24.72	24.72	C	85
09296	Quinces, raw ( <i>Cydonia</i> )	Flavan-3-ols	(-)-Epicatechin	0.67	3		0.67	0.67	C	58

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	<i>oblonga</i> )		(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.75	3		0.75	0.75	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169
			Myricetin	0.00	1		0.00	0.00	C	169
			Quercetin	0.00	1		0.00	0.00	C	169
09297	Raisins, golden seedless ( <i>Vitis vinifera</i> )	Flavonols	Kaempferol	2.71	20	0.57	1.18	3.86	B	138
			Quercetin	2.40	20	0.50	1.84	3.29	B	138
09298	Raisins, seedless ( <i>Vitis vinifera</i> )	Anthocyanidins	Cyanidin	0.03	7	0.01	0.00	0.10	B	85, 110
			Delphinidin	0.01	7	0.00	0.00	0.02	B	85, 110
			Malvidin	0.00	5		0.00	0.00	B	110
			Pelargonidin	0.01	7	0.00	0.00	0.02	B	85, 110
			Peonidin	0.00	5		0.00	0.00	B	110
			Petunidin	0.00	5		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.10	7	0.10	0.00	0.71	B	15, 110
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 110
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	15, 110
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 110
			(+)-Catechin	0.42	7	0.42	0.00	2.97	B	15, 110
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	15, 110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.00	6		0.00	0.00	B	110
		Flavones	Apigenin	0.00	7	0.00	0.00	0.01	B	85, 110
			Luteolin	0.01	4	0.00	0.00	0.02	B	85, 110
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.01	7	0.00	0.00	0.03	B	85, 110
			Quercetin	0.25	7	0.24	0.00	1.70	B	85, 110
99411	Raspberries, black	Anthocyanidins	Cyanidin	669.01	1		669.01	669.01	D	294
			Pelargonidin	16.69	1		16.69	16.69	D	294
			Peonidin	1.09	1		1.09	1.09	D	294
09518	Raspberries, frozen, red, unsweetened	Anthocyanidins	Cyanidin	21.75	19	1.30	12.89	31.44	B	206b
			Pelargonidin	1.07	21	0.07	0.56	1.74	B	206b
09552	Raspberries, puree, seedless	Anthocyanidins	Cyanidin	16.16	7	1.89	10.06	25.51	B	206b
			Pelargonidin	1.52	7	0.30	0.83	3.12	B	206b

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09553	Raspberries, puree, with seeds	Anthocyanidins	Cyanidin	18.79	5	0.91	15.98	20.78	B	206b	
			Pelargonidin	1.19	5	0.15	0.90	1.59	B	206b	
09554	Raspberry juice concentrate	Anthocyanidins	Cyanidin	45.92	4	6.99	28.94	62.35	B	206b	
			Pelargonidin	2.61	4	0.29	2.02	3.26	B	206b	
09302	Raspberries, raw ( <i>Rubus spp.</i> )	Anthocyanidins	Cyanidin	45.77	23	6.74	0.00	105.70	B	5, 110, 120, 172, 190, 294	
			Delphinidin	1.32	11	1.14	0.00	12.61	B	5, 110, 120	
			Malvidin	0.13	7	0.13	0.00	0.90	B	110, 120	
			Pelargonidin	0.98	19	0.34	0.00	5.96	B	110, 120, 172, 190, 294	
			Peonidin	0.12	7	0.12	0.00	0.87	B	110, 120	
			Petunidin	0.31	7	0.31	0.00	2.14	B	110, 120	
		Flavan-3-ols	(-)-Epicatechin	3.52	18	0.62	0.00	8.26	B	15, 58, 110, 172, 269	
			(-)-Epicatechin 3-gallate	0.00	10		0.00	0.00	B	15, 58, 110	
			(-)-Epigallocatechin	0.46	10		0.02	0.00	1.1 1	B	
			(-)-Epigallocatechin 3-gallate	0.54	10	0.54	0.00	5.35	B	15, 58, 110	
			(+)-Catechin	1.31	18	0.42	0.00	7.33	B	15, 58, 110, 172, 269	
			(+)-Gallocatechin	0.00	10	0.00	0.00	0.01	B	15, 58, 110	
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	110	
			Naringenin	0.00	3		0.00	0.00	B	110	
		Flavones	Apigenin	0.00	7		0.00	0.00	B	110, 169	
			Luteolin	0.00	3		0.00	0.00	B	110, 169	
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	172	
Kaempferol	0.06		12	0.05	0.00	0.64	B	109, 169, 172, 190, 306			
Myricetin	0.00		9		0.00	0.00	B	109, 110			
Quercetin	1.05		61	0.09	0.00	4.57	B	10, 107, 109, 110, 131, 134, 169, 172, 190, 306			
99327	Raspberries, red, frozen	Anthocyanidins	Cyanidin	22.60	1		22.60	22.60	C	85	
			Delphinidin	0.02	1		0.02	0.02	C	85	
			Pelargonidin	1.60	1		1.60	1.60	C	85	
		Flavones	Apigenin	0.01	1		0.01	0.01	C	85	
			Luteolin	0.02	1		0.02	0.02	C	85	
		Flavonols	Kaempferol	0.01	1		0.01	0.01	C	85	
			Myricetin	0.03	1		0.03	0.03	C	85	
			Quercetin	1.10	1		1.10	1.10	C	85	
99052	Rhubarb stalks, cooked	Flavan-3-ols	(-)-Epicatechin	0.38	4		0.38	0.38	B	15	
			(-)-Epicatechin 3-gallate	0.49	4		0.49	0.49	B	15	
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15	
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15	

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			(+)-Catechin	1.48	4		1.48	1.48	B	15			
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15			
09307	Rhubarb, raw ( <i>Rheum rhabarbarum</i> )	Flavan-3-ols	(-)-Epicatechin	0.51	4		0.51	0.51	B	15			
			(-)-Epicatechin 3-gallate	0.60	4		0.60	0.60	B	15			
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15			
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15			
			(+)-Catechin	2.17	4		2.17	2.17	B	15			
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15			
			99335	Rowanberries, raw	Flavonols	Kaempferol	0.00	2		0.00	0.00	C	109
						Myricetin	0.00	2		0.00	0.00	C	109
Quercetin	7.40	2				1.10	6.30	8.50	C	109			
99037	Sea buckthorn berry, raw	Anthocyanidins	Cyanidin	0.04	1		0.04	0.04	C	120			
			Delphinidin	0.01	1		0.01	0.01	C	120			
			Malvidin	0.02	1		0.02	0.02	C	120			
			Pelargonidin	0.00	1		0.00	0.00	C	120			
			Peonidin	0.01	1		0.01	0.01	C	120			
			Petunidin	0.00	1		0.00	0.00	C	120			
		Flavonols	Isorhamnetin	38.29	29	2.66	8.60	72.17	B	297			
			Quercetin	7.58	29	0.92	2.56	20.53	B	297			
99616	Service (Saskatoon) berries ( <i>Amelanchier canadensis</i> )	Anthocyanidins	Cyanidin	110.58	8	17.07	18.68	249.60	C	2, 120, 201			
			Delphinidin	50.38	1		50.38	50.38	C	120			
			Malvidin	10.59	1		10.59	10.59	C	120			
			Pelargonidin	0.00	1		0.00	0.00	C	120			
			Peonidin	2.96	1		2.96	2.96	C	120			
			Petunidin	6.27	1		6.27	6.27	C	120			
		Flavonols	Quercetin	16.64	4	6.79	16.13	17.15	C	201			
09315	Soursop, raw ( <i>Annona muricata</i> )	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152			
			Myricetin	0.00	1		0.00	0.00	C	152			
			Quercetin	0.00	1		0.00	0.00	C	152			
99382	Star apple, raw	Flavan-3-ols	(-)-Epicatechin	0.73	1		0.73	0.73	D	171			
			(-)-Epigallocatechin	0.14	1		0.14	0.14	D	171			
			(+)-Catechin	0.25	1		0.25	0.25	D	171			
			(+)-Gallocatechin	0.53	1		0.53	0.53	D	171			
		Flavonols	Myricetin	0.08	1		0.08	0.08	D	171			
			Quercetin	0.26	1		0.26	0.26	D	171			
09318	Strawberries, frozen, unsweetened	Anthocyanidins	Cyanidin	1.27	9	0.39	0.33	3.21	B	85, 94, 146			
			Delphinidin	0.02	1		0.02	0.02	C	85			
			Pelargonidin	19.32	9	5.54	7.35	48.50	B	85, 94, 146			

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		Flavones	Apigenin	0.01	1		0.01	0.01	C	85		
			Luteolin	0.02	1		0.02	0.02	C	85		
		Flavonols	Kaempferol	0.49	20	0.08	0.00	1.30	B	85, 107, 108, 146		
			Myricetin	0.35	4	0.14	0.03	0.69	B	85, 146		
			Quercetin	0.46	17	0.04	0.30	0.90	B	85, 107, 108		
		09316	Strawberries, raw ( <i>Fragaria X ananassa</i> )	Anthocyanidins	Cyanidin	1.68	156	0.06	0.00	9.38	B	36, 53, 85, 94, 110, 120, 172, 195, 210, 289, 290, 294
					Delphinidin	0.31	9	0.29	0.00	2.60	B	85, 110, 120
					Malvidin	0.01	8	0.01	0.00	0.09	B	110, 120
					Pelargonidin	24.85	151	0.70	5.91	57.49	B	36, 53, 94, 110, 120, 172, 195, 210, 289, 290, 294
					Peonidin	0.05	8	0.05	0.00	0.44	B	110, 120
Petunidin	0.11				9	0.11	0.00	0.95	B	110, 120, 294		
Flavan-3-ols	(-)-Epicatechin			0.42	30	0.13	0.00	2.20	B	15, 33, 58, 110, 172, 210, 269		
	(-)-Epicatechin 3-gallate			0.15	13	0.03	0.00	0.66	A	15, 58, 110		
	(-)-Epigallocatechin			0.78	13	0.35	0.00	4.31	A	15, 58, 110		
	(-)-Epigallocatechin 3-gallate			0.11	13	0.07	0.00	0.73	A	15, 58, 110		
	(+)-Catechin	3.11	31	0.19	0.00	5.70	B	15, 33, 58, 110, 114, 172, 210, 269				
	(+)-Gallocatechin	0.03	12	0.01	0.00	0.12	A	15, 58, 110				
Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110				
	Naringenin	0.26	7	0.26	0.00	1.81	B	110, 114				
Flavones	Apigenin	0.00	21	0.00	0.00	0.01	B	85, 110, 116, 169, 230				
	Luteolin	0.00	18	0.00	0.00	0.02	B	12, 85, 110, 116, 169, 230				
Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	172				
	Kaempferol	0.50	135	0.01	0.00	2.30	B	12, 33, 36, 85, 107, 109, 114, 116, 131, 134, 141, 169, 172, 210, 230, 289, 290				
	Myricetin	0.04	24	0.04	0.00	0.98	B	12, 85, 109, 110, 116, 141, 230				
	Quercetin	1.11	118	0.04	0.00	4.40	B	12, 33, 36, 85, 107, 109, 110, 114, 116, 131, 134, 141, 169, 172, 210, 230, 290				
97007	Strawberry tree fruit (arbutus), raw	Anthocyanidins	Cyanidin	2.16	1		2.16	2.16	C	203		
			Delphinidin	0.26	1		0.26	0.26	C	203		
		Flavan-3-ols	(-)-Epicatechin	1.56	4	0.09	1.11	2.89	C	58, 203		
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58		
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58		
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58		
			(+)-Catechin	6.65	4	2.94	4.16	7.48	C	58, 203		

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			(+)-Gallocatechin	1.60	3		1.60	1.60	C	58
		Flavonols	Myricetin	0.64	1		0.64	0.64	C	203
			Quercetin	0.48	1		0.48	0.48	C	203
09218	Tangerines, (mandarin oranges), raw ( <i>Citrus reticulata</i> )	Flavanones	Hesperetin	7.94	11	2.12	4.52	11.17	B	59, 85
			Naringenin	10.02	11	1.47	1.74	29.15	B	59, 85
		Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169
			Myricetin	0.00	1		0.00	0.00	C	169
			Quercetin	0.00	1		0.00	0.00	C	169
99633	Tropical fruit juice	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	189
		Flavanones	Eriodictyol	0.08	3		0.08	0.08	C	189
			Hesperetin	0.75	3		0.75	0.75	C	189
			Naringenin	0.37	3		0.37	0.37	C	189
		Flavonols	Quercetin	0.08	3		0.08	0.08	C	189
09326	Watermelon, raw ( <i>Citrullus lanatus</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	110
			Delphinidin	0.00	3		0.00	0.00	B	110
			Malvidin	0.00	3		0.00	0.00	B	110
			Pelargonidin	0.00	3		0.00	0.00	B	110
			Peonidin	0.00	3		0.00	0.00	B	110
			Petunidin	0.00	3		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	7		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(+)-Catechin	0.00	7		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	110
			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	5		0.00	0.00	B	110, 169, 239
			Luteolin	0.46	4	0.46	0.00	1.84	B	12, 110, 169, 239
		Flavonols	Kaempferol	0.45	4	0.45	0.00	1.81	B	12, 152, 169, 239
			Myricetin	0.00	7		0.00	0.00	B	12, 110, 152, 169, 239
			Quercetin	0.00	7		0.00	0.00	B	12, 110, 152, 169, 239
99361	Yuzu, raw	Flavanones	Hesperetin	28.73	60	3.64	26.64	30.32	C	301
			Naringenin	24.82	60	3.15	22.80	26.12	C	301
<b>11 – Vegetables and Vegetable Products</b>										
11001	Alfalfa seeds, sprouted, raw	Flavones	Apigenin	0.00	1		0.00	0.00	C	239

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	( <i>Medicago sativa</i> )		Luteolin	0.00	1		0.00	0.00	C	239
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	239
			Myricetin	0.00	1		0.00	0.00	C	239
			Quercetin	1.70	1		1.70	1.70	C	239
11004	Amaranth leaves, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.55	1		0.55	0.55	C	152
			Quercetin	0.88	1		0.88	0.88	C	152
99001	Annual saw-thistle, leaves	Flavones	Apigenin	3.80	1		3.80	3.80	B	267
			Luteolin	6.50	1		6.50	6.50	B	267
		Flavonols	Isorhamnetin	0.70	1		0.70	0.70	B	267
			Kaempferol	3.80	1		3.80	3.80	B	267
			Myricetin	3.60	1		3.60	3.60	B	267
			Quercetin	16.00	1		16.00	16.00	B	267
11006	Arrowhead, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11007	Artichokes, (globe or french), raw ( <i>Cynara scolymus</i> )	Flavanones	Naringenin	12.50	10	2.46	0.00	22.93	C	246, 288
		Flavones	Apigenin	7.48	25	0.81	0.00	17.69	B	83, 154, 246, 288
			Luteolin	2.30	13	0.48	0.00	6.56	B	154, 246, 288
99362	Artichokes, Ocean Mist, boiled	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	110
			Delphinidin	0.00	1		0.00	0.00	B	110
			Malvidin	0.00	1		0.00	0.00	B	110
			Pelargonidin	0.00	1		0.00	0.00	B	110
			Peonidin	0.00	1		0.00	0.00	B	110
			Petunidin	0.00	1		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	110
			(+)-Catechin	0.00	1		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	110
			Naringenin	0.00	1		0.00	0.00	B	110
		Flavones	Apigenin	0.00	1		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	1		0.00	0.00	B	110



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99363	Artichokes, Ocean Mist, Microwaved	Anthocyanidins	Quercetin	0.00	1		0.00	0.00	B	110
			Cyanidin	0.00	1		0.00	0.00	B	110
			Delphinidin	0.00	1		0.00	0.00	B	110
			Malvidin	0.00	1		0.00	0.00	B	110
			Pelargonidin	0.00	1		0.00	0.00	B	110
			Peonidin	0.00	1		0.00	0.00	B	110
			Petunidin	0.00	1		0.00	0.00	B	110
		Flavones	Apigenin	0.00	1		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	1		0.00	0.00	B	110
Quercetin	0.00		1		0.00	0.00	B	110		
11959	Arugula, raw ( <i>Eruca sativa</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavones	Apigenin	0.00	4		0.00	0.00	C	11, 124
			Luteolin	0.00	2		0.00	0.00	C	11
		Flavonols	Isorhamnetin	4.30	3		4.30	4.30	C	178
			Kaempferol	34.89	7	13.91	3.00	104.20	B	11, 124, 178
Quercetin	7.92		7	1.99	0.00	14.30	B	11, 124, 178		
11012	Asparagus, cooked, boiled, drained	Flavonols	Quercetin	15.16	8	2.42	7.61	28.40	B	77, 174
11011	Asparagus, raw ( <i>Asparagus officinalis</i> )	Flavonols	Isorhamnetin	5.70	10	0.91	0.46	10.28	B	87
			Kaempferol	1.39	11	0.44	0.00	5.20	B	87, 141
			Myricetin	0.00	1		0.00	0.00	C	141
			Quercetin	13.98	36	0.91	0.05	28.72	B	77, 87, 141, 174, 238
11025	Balsam-pear (bitter gourd), pods, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
99655	Bay leaves, fresh ( <i>Laurus nobilis</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	D	253
			Luteolin	0.00	1		0.00	0.00	D	253
		Flavonols	Kaempferol	4.82	1		4.82	4.82	D	253
			Myricetin	0.00	1		0.00	0.00	D	253
			Quercetin	3.19	1		3.19	3.19	D	253
99643	Beans, butter, raw ( <i>Phaseolus coccineus</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	0.00	3		0.00	0.00	C	123
			Quercetin	0.00	3		0.00	0.00	C	123
11056	Beans, snap, green, canned, regular pack, drained solids	Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.02	5	0.02	0.00	0.09	C	116, 214

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			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	1.49	5	0.62	0.63	1.70	C	116, 214
11053	Beans, snap, green, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.02	1		0.02	0.02	C	85
			Delphinidin	0.02	1		0.02	0.02	C	85
			Pelargonidin	0.02	1		0.02	0.02	C	85
			Flavonols	Kaempferol	0.00	1		0.00	0.00	B
		Myricetin	0.08	1		0.08	0.08	B	152	
		Quercetin	2.84	11	0.42	0.32	4.81	B	7, 152	
11060	Beans, snap, green, frozen, all styles, unprepared	Flavonols	Kaempferol	0.24	4		0.24	0.24	C	76
			Quercetin	1.30	1		1.30	1.30	C	76
11061	Beans, snap, green, frozen, cooked, boiled, drained without salt	Flavonols	Kaempferol	0.26	8	0.07	0.20	0.31	C	76
			Quercetin	1.25	8	0.33	1.00	1.50	C	76
11052	Beans, snap, green, raw ( <i>Phaseolus vulgaris</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	11		0.00	0.00	B	15, 58
			(-)-Epicatechin 3-gallate	0.00	11		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	0.00	11		0.00	0.00	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	11		0.00	0.00	B	15, 58
			(+)-Catechin	0.00	11		0.00	0.00	B	15, 58
			(+)-Gallocatechin	0.00	11		0.00	0.00	B	15, 58
		Flavones	Apigenin	0.00	5	0.00	0.00	0.01	B	85, 116
			Luteolin	0.13	8	0.13	0.00	1.01	B	12, 85, 116
		Flavonols	Kaempferol	0.45	23	0.06	0.00	1.86	B	12, 85, 113, 116, 141, 214
			Myricetin	0.13	9	0.12	0.00	1.11	B	12, 85, 116, 141
			Quercetin	2.73	30	0.22	0.03	9.09	B	7, 12, 85, 113, 116, 134, 141, 214
11724	Beans, snap, yellow, cooked, boiled, drained, without salt	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.20	1		0.20	0.20	C	152
			Kaempferol	0.42	9	0.06	0.20	0.71	C	113
			Quercetin	3.03	9	0.69	0.95	6.85	C	113
11080	Beets, raw ( <i>Beta vulgaris</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	5		0.00	0.00	C	116, 170
			Luteolin	0.37	5	0.37	0.00	1.83	C	116, 170

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		Flavonols	Kaempferol	0.00	5		0.00	0.00	C	116, 170
			Myricetin	0.00	5		0.00	0.00	C	116, 170
			Quercetin	0.13	5	0.13	0.00	0.67	C	116, 170
11089	Broadbeans, immature seeds, cooked, boiled, drained, without salt	Flavan-3-ols	(-)-Epicatechin	7.82	4		7.82	7.82	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	4.65	4		4.65	4.65	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	8.16	4		8.16	8.16	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
11088	Broadbeans, immature seeds, raw ( <i>Vicia faba</i> )	Flavan-3-ols	(-)-Epicatechin	28.96	7	9.70	22.51	37.55	B	15, 58
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	15.47	7	5.29	14.03	17.38	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(+)-Catechin	14.29	7	4.88	12.83	16.23	B	15, 58
			(+)-Gallocatechin	4.15	7	0.80	0.00	9.68	B	15, 58
		Flavones	Apigenin	0.00	1		0.00	0.00	B	116
			Luteolin	0.00	1		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	116
			Myricetin	2.60	1		2.60	2.60	B	116
			Quercetin	2.00	1		2.00	2.00	B	116
11097	Broccoli raab, cooked	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	110
			Delphinidin	0.00	3		0.00	0.00	B	110
			Malvidin	0.00	3		0.00	0.00	B	110
			Pelargonidin	0.00	3		0.00	0.00	B	110
			Peonidin	0.00	3		0.00	0.00	B	110
			Petunidin	0.00	3		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(+)-Catechin	0.00	4		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	3		0.00	0.00	B	110
			Luteolin	0.00	3		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	3		0.00	0.00	B	110
			Quercetin	1.05	3	1.05	0.00	3.16	B	110

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11096	Broccoli raab, raw ( <i>Brassica ruvo</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	110
			Delphinidin	0.00	2		0.00	0.00	B	110
			Malvidin	0.00	2		0.00	0.00	B	110
			Pelargonidin	0.00	2		0.00	0.00	B	110
			Peonidin	0.00	2		0.00	0.00	B	110
			Petunidin	0.00	2		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(+)-Catechin	0.00	2		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110
			Naringenin	0.00	2		0.00	0.00	B	110
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	110
			Quercetin	2.25	2	2.25	0.00	4.49	B	110
11091	Broccoli, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.00	4		0.00	0.00	B	110
			Delphinidin	0.00	4		0.00	0.00	B	110
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.00	4		0.00	0.00	B	110
			Peonidin	0.00	4		0.00	0.00	B	110
			Petunidin	0.00	4		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	110
			(+)-Catechin	0.00	1		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	110
			Naringenin	0.00	1		0.00	0.00	B	110
		Flavones	Apigenin	0.00	4		0.00	0.00	B	110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Kaempferol	1.06	31	0.12	0.13	3.28	B	208, 213
			Myricetin	0.00	4		0.00	0.00	B	110
Quercetin	1.33		35	0.16	0.00	3.28	B	110, 208, 213		
11092	Broccoli, frozen, chopped,	Flavonols	Kaempferol	2.49	3	0.76	0.96	3.27	C	221

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	unprepared		Quercetin	2.40	3	0.78	0.91	3.52	C	221
11090	Broccoli, raw ( <i>Brassica oleracea</i> var. <i>italica</i> )	Anthocyanidins	Cyanidin	0.00	4		0.00	0.00	B	110
			Delphinidin	0.00	4		0.00	0.00	B	110
			Malvidin	0.00	4		0.00	0.00	B	110
			Pelargonidin	0.00	4		0.00	0.00	B	110
			Peonidin	0.00	4		0.00	0.00	B	110
			Petunidin	0.00	4		0.00	0.00	B	110
			Flavan-3-ols	(-)-Epicatechin	0.00	10		0.00	0.00	A
		(-)-Epicatechin 3-gallate		0.00	10		0.00	0.00	A	15, 110
		(-)-Epigallocatechin		0.00	10		0.00	0.00	A	15, 110
		(-)-Epigallocatechin 3-gallate		0.00	10		0.00	0.00	A	15, 110
		(+)-Catechin		0.00	10		0.00	0.00	A	15, 110
		(+)-Gallocatechin		0.00	10		0.00	0.00	A	15, 110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.00	6		0.00	0.00	B	110
		Flavones	Apigenin	0.00	11	0.00	0.00	0.01	B	18, 85, 110, 116, 170
			Luteolin	0.80	15	0.17	0.00	3.98	B	12, 18, 85, 110, 116, 170, 238
		Flavonols	Kaempferol	7.84	115	0.60	0.05	21.30	B	12, 18, 85, 99, 116, 119, 134, 141, 170, 179, 213, 238
Myricetin	0.06		13	0.05	0.00	0.71	B	12, 18, 85, 110, 116, 141, 170		
Quercetin	3.26		116	0.22	0.00	13.70	B	12, 18, 85, 99, 110, 116, 119, 134, 141, 170, 179, 213		
11099	Brussels sprouts, cooked, boiled, drained, without salt	Flavanones	Naringenin	1.94	24	0.30	0.63	4.07	C	208
			Luteolin	0.50	24	0.07	0.06	1.24	C	208
		Flavonols	Kaempferol	0.91	24	0.15	0.58	1.34	C	208
			Quercetin	4.33	24	0.70	2.53	8.34	C	208
11098	Brussels sprouts, raw ( <i>Brassica oleracea</i> ( <i>Gemmifera</i> Group))	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavanones	Naringenin	3.29	6	1.19	2.74	3.85	C	208
		Flavones	Apigenin	0.00	2		0.00	0.00	B	116, 170
			Luteolin	0.33	8	0.06	0.00	0.67	B	116, 170, 208
		Flavonols	Kaempferol	0.86	10	0.18	0.73	1.28	B	116, 134, 170, 208
			Myricetin	0.00	2		0.00	0.00	B	116, 170
Quercetin	1.92		10	0.43	0.00	4.04	B	116, 134, 170, 208		

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11117	Cabbage, chinese (pak-choi), cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.02	2		0.02	0.02	C	85
			Delphinidin	0.02	2		0.02	0.02	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85
		Flavones	Apigenin	0.01	1		0.01	0.01	C	85
			Luteolin	0.02	1		0.02	0.02	C	85
			Isorhamnetin	0.16	1		0.16	0.16	B	152
			Kaempferol	1.52	2	0.88	0.64	2.40	C	85, 152
			Myricetin	0.01	2	0.01	0.00	0.03	C	85, 152
			Quercetin	0.19	2	0.11	0.08	0.30	C	85, 152
11116	Cabbage, chinese (pak-choi), raw ( <i>Brassica rapa (Chinensis Group)</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.24	19	0.24	0.00	4.50	B	18, 46, 85, 170, 303
			Luteolin	0.09	19	0.06	0.00	1.20	B	18, 46, 85, 170, 303
		Flavonols	Kaempferol	4.33	25	0.45	0.00	16.30	B	18, 46, 85, 170, 238, 303
			Myricetin	0.03	7	0.01	0.00	0.10	B	18, 46, 85, 170
			Quercetin	2.06	19	2.05	0.00	39.00	B	18, 46, 85, 170, 303
11119	Cabbage, chinese (pe-tsai), raw ( <i>Brassica rapa (Pekinensis Group)</i> )	Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.10	2		0.10	0.10	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.01	2		0.01	0.01	C	85
99377	Cabbage, Chinese, choi-sum, raw	Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	2.80	2		2.80	2.80	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.90	2		0.90	0.90	C	85
99378	Cabbage, Chinese, raw	Flavonols	Kaempferol	22.51	6	8.19	20.02	25.00	C	238
11110	Cabbage, cooked, boiled, drained, without salt	Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.01	2		0.01	0.01	C	85
99599	Cabbage, napa, raw	Flavonols	Kaempferol	0.02	1		0.02	0.02	D	47
			Quercetin	0.04	1		0.04	0.04	D	47

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11109	Cabbage, raw ( <i>Brassica oleracea</i> ( <i>Capitata</i> Group))	Flavones	Apigenin	0.08	11	0.07	0.00	0.80	B	18, 46, 116, 170
			Luteolin	0.10	15	0.03	0.00	0.42	B	12, 18, 46, 116, 170, 238
		Flavonols	Kaempferol	0.18	19	0.07	0.00	1.19	B	12, 18, 46, 47, 116, 170, 221, 238
			Myricetin	0.00	12		0.00	0.00	B	12, 18, 46, 116, 170
		Quercetin	0.28	22	0.23	0.00	5.10	B	12, 18, 46, 47, 116, 134, 170, 221, 238	
11113	Cabbage, red, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	39.22	1		39.22	39.22	C	43
			Peonidin	0.16	1		0.16	0.16	C	43
99609	Cabbage, red, pickled	Anthocyanidins	Cyanidin	11.77	1		11.77	11.77	D	47
		Flavonols	Myricetin	0.52	1		0.52	0.52	D	47
			Quercetin	1.05	1		1.05	1.05	D	47
11112	Cabbage, red, raw ( <i>Brassica oleracea</i> ( <i>Capitata</i> Group))	Anthocyanidins	Cyanidin	209.83	7	74.95	7.36	475.08	B	47, 85, 294
			Delphinidin	0.10	2		0.10	0.10	B	85
			Pelargonidin	0.02	2		0.02	0.02	B	85
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.06	13	0.05	0.00	0.61	B	46, 47, 85, 116, 170
			Luteolin	0.10	12	0.05	0.00	0.63	B	46, 85, 116, 170
		Flavonols	Kaempferol	0.00	14	0.00	0.00	0.01	B	26, 46, 47, 85, 116, 170
			Myricetin	0.20	12	0.09	0.00	1.20	B	46, 85, 116, 170
Quercetin	0.36		14	0.05	0.02	0.92	B	26, 46, 47, 85, 116, 170		
11115	Cabbage, savoy, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
11115	Cabbage, savoy, cooked, boiled, drained, without salt	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11114	Cabbage, savoy, raw ( <i>Brassica oleracea</i> ( <i>Capitata</i> Group))	Flavones	Apigenin	0.69	1		0.69	0.69	D	47
			Luteolin	0.18	1		0.18	0.18	D	47
		Flavonols	Kaempferol	0.79	1		0.79	0.79	D	47
			Myricetin	0.08	1		0.08	0.08	D	47
			Quercetin	0.36	1		0.36	0.36	D	47
11960	Carrots, baby, raw ( <i>Daucus carota</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	110
			Delphinidin	0.00	2		0.00	0.00	B	110

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			Malvidin	0.00	2		0.00	0.00	B	110
			Pelargonidin	0.00	2		0.00	0.00	B	110
			Peonidin	0.00	2		0.00	0.00	B	110
			Petunidin	0.00	2		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(+)-Catechin	0.00	4		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	110
			Quercetin	0.00	2		0.00	0.00	B	110
11128	Carrots, canned, regular pack, drained solids	Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.00	4		0.00	0.00	B	116
11125	Carrots, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11124	Carrots, raw ( <i>Daucus carota</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	7		0.00	0.00	B	15, 58
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(+)-Catechin	0.00	7		0.00	0.00	B	15, 58
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	15, 58
		Flavones	Apigenin	0.00	6		0.00	0.00	B	18, 116, 170
			Luteolin	0.11	7	0.11	0.00	0.80	B	12, 18, 116, 170
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	152
			Kaempferol	0.24	9	0.17	0.00	1.53	B	12, 18, 116, 141, 152, 170
			Myricetin	0.04	9	0.04	0.00	0.40	B	12, 18, 116, 141, 152, 170
			Quercetin	0.21	9	0.17	0.00	1.50	B	12, 18, 116, 141, 152, 170
99612	Cassava (yucca), boiled	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	B	152



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			Kaempferol	0.00	3		0.00	0.00	B	152
			Myricetin	0.00	3		0.00	0.00	B	152
			Quercetin	0.00	3		0.00	0.00	B	152
11935	Catsup	Flavonols	Kaempferol	0.01	3		0.01	0.01	C	260
			Quercetin	0.86	3		0.86	0.86	C	260
11136	Cauliflower, cooked, boiled, drained, without salt	Flavones	Luteolin	0.27	12	0.06	0.10	0.44	C	208
		Flavonols	Kaempferol	0.51	12	0.09	0.15	1.33	C	208
			Quercetin	0.36	12	0.08	0.19	0.76	C	208
11138	Cauliflower, frozen, cooked, boiled, drained, without salt	Flavones	Luteolin	0.24	12	0.06	0.10	0.37	C	208
		Flavonols	Kaempferol	0.39	12	0.09	0.27	0.50	C	208
			Quercetin	0.19	12	0.04	0.08	0.27	C	208
11137	Cauliflower, frozen, unprepared	Flavones	Luteolin	0.29	3		0.29	0.29	C	208
		Flavonols	Kaempferol	0.32	6	0.08	0.09	0.47	C	208, 221
			Quercetin	0.53	6	0.15	0.23	1.18	C	208, 221
11135	Cauliflower, raw ( <i>Brassica oleracea</i> ( <i>Botrytis</i> Group))	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.03	6	0.03	0.00	0.20	B	18, 116, 170
			Luteolin	0.09	9	0.04	0.00	0.40	B	18, 116, 170, 208
		Flavonols	Kaempferol	0.36	10	0.14	0.00	1.25	B	18, 116, 170, 208, 221
			Myricetin	0.00	6		0.00	0.00	B	18, 116, 170
			Quercetin	0.54	10	0.38	0.00	3.90	B	18, 116, 170, 208, 221
11141	Celeriac, raw ( <i>Apium graveolens</i> )	Flavones	Apigenin	2.41	1		2.41	2.41	D	170
			Luteolin	0.00	1		0.00	0.00	D	170
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	170
			Myricetin	0.00	1		0.00	0.00	D	170
			Quercetin	0.18	1		0.18	0.18	D	170
99118	Celery hearts, green	Flavones	Apigenin	19.10	1		19.10	19.10	D	51
			Luteolin	3.50	1		3.50	3.50	D	51
99009	Celery hearts, white	Flavones	Apigenin	1.70	1		1.70	1.70	C	51
			Luteolin	0.66	1		0.66	0.66	C	51
99649	Celery, Chinese, raw	Flavones	Apigenin	24.02	3		24.02	24.02	C	163
			Luteolin	34.87	3		34.87	34.87	C	163
11143	Celery, raw ( <i>Apium graveolens</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	A	110
			Delphinidin	0.00	8		0.00	0.00	A	110

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			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.00	8		0.00	0.00	A	110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	0.00	5		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(+)-Catechin	0.00	5		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	5		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	2.85	25	0.56	0.00	10.80	B	51, 110, 117, 134, 163, 238
			Luteolin	1.05	22	0.23	0.00	4.00	B	51, 110, 117, 134, 163, 238
		Flavonols	Kaempferol	0.22	1		0.22	0.22	C	141
			Myricetin	0.00	9		0.00	0.00	B	110, 141
			Quercetin	0.39	10	0.35	0.00	3.50	B	50, 110, 141
99659	Chard, swiss, red and white stems, raw ( <i>Beta vulgaris</i> subsp. <i>Vulgaris</i> )	Flavan-3-ols	(+)-Catechin	0.20	6	0.07	0.10	0.30	C	222
		Flavonols	Kaempferol	1.10	6	0.37	0.50	1.70	C	222
			Myricetin	0.05	6	0.01	0.00	0.10	C	222
			Quercetin	0.40	6	0.14	0.30	0.50	C	222
99658	Chard, swiss, red leaf, raw ( <i>Beta vulgaris</i> subsp. <i>Vulgaris</i> )	Flavan-3-ols	(+)-Catechin	6.70	3		6.70	6.70	C	222
		Flavonols	Kaempferol	9.20	3		9.20	9.20	C	222
			Myricetin	2.20	3		2.20	2.20	C	222
			Quercetin	7.50	3		7.50	7.50	C	222
11147	Chard, swiss, white leaf, raw ( <i>Beta vulgaris</i> subsp. <i>vulgaris</i> )	Flavan-3-ols	(+)-Catechin	1.50	3		1.50	1.50	C	222
		Flavonols	Kaempferol	5.80	3		5.80	5.80	C	222
			Myricetin	3.10	3		3.10	3.10	C	222
			Quercetin	2.20	3		2.20	2.20	C	222
11152	Chicory greens, raw ( <i>Cichorium intybus</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.77	6	0.50	0.00	2.80	B	11, 116
			Luteolin	2.08	9	1.00	0.00	7.80	B	11, 116, 127

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		Flavonols	Kaempferol	2.45	6	1.83	0.00	11.10	B	11, 116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	6.49	9	2.97	0.00	25.20	B	11, 116, 127
11156	Chives, raw ( <i>Allium schoenoprasum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
		Flavones	Apigenin	0.00	2		0.00	0.00	B	133, 267
			Luteolin	0.15	2	0.15	0.00	0.30	B	133, 267
		Flavonols	Isorhamnetin	6.75	2	1.75	5.00	8.50	B	133, 267
			Kaempferol	10.00	3	2.25	5.50	12.50	B	26, 133, 267
			Myricetin	0.00	1		0.00	0.00	B	267
			Quercetin	4.77	3	2.88	0.90	10.40	B	26, 133, 267
11161	Collards, raw ( <i>Brassica oleracea var. viridis</i> )	Flavones	Apigenin	0.00	12	0.00	0.00	0.00	C	303
			Luteolin	0.08	12	0.02	0.08	0.08	C	303
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	8.74	15	1.86	0.06	43.30	C	123, 303
			Quercetin	2.57	15	0.51	0.09	12.40	C	123, 303
11165	Coriander (cilantro) leaves, raw ( <i>Coriandrum sativum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
		Flavones	Apigenin	0.00	1		0.00	0.00	C	133
			Luteolin	0.00	1		0.00	0.00	C	133
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133
			Kaempferol	0.00	1		0.00	0.00	C	133
			Quercetin	52.90	4	23.14	5.00	68.86	C	133, 238
99014	Corn poppy, leaves	Flavones	Apigenin	0.10	1		0.10	0.10	B	267
			Luteolin	0.10	1		0.10	0.10	B	267
		Flavonols	Isorhamnetin	1.10	1		1.10	1.10	B	267
			Kaempferol	2.30	1		2.30	2.30	B	267
			Myricetin	1.10	1		1.10	1.10	B	267
			Quercetin	26.30	1		26.30	26.30	B	267
11167	Corn, sweet, yellow, raw	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.00	1		0.00	0.00	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
11191	Cowpeas (blackeyes), immature seeds, raw ( <i>Vigna unguiculata</i> Subsp. <i>Unguiculata</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	0.00	3		0.00	0.00	C	123
			Quercetin	5.50	3		5.50	5.50	C	123
11204	Cress, garden, cooked, boiled,	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152

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(For mean, standard error, min and max, units = mg/100g, edible portion)

	drained, without salt		Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11203	Cress, garden, raw ( <i>Lepidium sativum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
		Flavones	Apigenin	0.00	1		0.00	0.00	C	133
			Luteolin	0.00	1		0.00	0.00	C	133
		Flavonols	Isorhamnetin	1.00	1		1.00	1.00	C	133
			Kaempferol	13.00	1		13.00	13.00	C	133
			Quercetin	0.00	1		0.00	0.00	C	133
99102	Crown daisy, leaves	Flavones	Apigenin	0.00	1		0.00	0.00	D	46
			Luteolin	0.01	1		0.01	0.01	D	46
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	46
			Myricetin	0.02	1		0.02	0.02	D	46
			Quercetin	0.16	1		0.16	0.16	D	46
11205	Cucumber, with peel, raw ( <i>Cucumis sativus</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	6		0.00	0.00	B	46, 116, 170
			Luteolin	0.00	7	0.00	0.00	0.01	B	12, 46, 116, 170
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	152
			Kaempferol	0.13	9	0.09	0.00	0.76	B	12, 46, 116, 141, 152, 170
			Myricetin	0.00	9		0.00	0.00	B	12, 46, 116, 141, 152, 170
			Quercetin	0.04	9	0.03	0.00	0.24	B	12, 46, 116, 141, 152, 170
11616	Dock, raw ( <i>Rumex spp.</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	B	267
			Luteolin	0.00	1		0.00	0.00	B	267
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	267
			Kaempferol	10.30	1		10.30	10.30	B	267
			Myricetin	5.70	1		5.70	5.70	B	267
			Quercetin	86.20	1		86.20	86.20	B	267
11222	Drumstick (horseradish tree) leaves, raw ( <i>Moringa oleifera</i> )	Flavonols	Isorhamnetin	0.44	2	0.07	0.36	0.51	B	152
			Kaempferol	5.95	2	0.17	5.78	6.12	B	152
			Myricetin	0.00	2		0.00	0.00	B	152
			Quercetin	16.65	2	1.35	15.30	18.00	B	152
99661	Eggplant, long, cooked	Anthocyanidins	Cyanidin	0.02	2		0.02	0.02	C	85
			Delphinidin	0.02	2		0.02	0.02	C	85

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(For mean, standard error, min and max, units = mg/100g, edible portion)

			Pelargonidin	0.02	2		0.02	0.02	C	85
		Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	3	0.00	0.00	0.01	B	85, 152
			Myricetin	0.07	3	0.03	0.03	0.14	B	85, 152
			Quercetin	0.00	3		0.00	0.00	B	85, 152
11209	Eggplant, raw ( <i>Solanum melongena</i> )	Anthocyanidins	Delphinidin	85.69	1		85.69	85.69	C	294
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.00	3		0.00	0.00	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavones	Luteolin	0.00	1		0.00	0.00	C	12
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	0.00	4		0.00	0.00	C	12, 123
			Myricetin	0.00	1		0.00	0.00	C	12
			Quercetin	0.04	4	0.04	0.00	0.16	C	12, 123
11213	Endive, raw ( <i>Cichorium endivia</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	10.10	14	1.88	1.80	24.83	B	72, 116, 117
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.00	4		0.00	0.00	B	116
11957	Fennel, bulb, raw ( <i>Foeniculum vulgare</i> )	Flavanones	Eriodictyol	1.08	8	0.36	0.00	2.31	B	82
		Flavonols	Quercetin	0.23	8	0.04	0.11	0.43	B	82
99058	Fennel, leaves, raw	Flavones	Apigenin	0.00	1		0.00	0.00	B	267
			Luteolin	0.10	1		0.10	0.10	B	267
		Flavonols	Isorhamnetin	9.30	1		9.30	9.30	B	267
			Kaempferol	6.50	1		6.50	6.50	B	267
			Myricetin	19.80	1		19.80	19.80	B	267
			Quercetin	48.80	1		48.80	48.80	B	267
99053	Garlic chives, raw	Flavonols	Kaempferol	2.12	1		2.12	2.12	C	26

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			Quercetin	0.12	1		0.12	0.12	C	26
11215	Garlic, raw ( <i>Allium sativum</i> )	Flavonols	Kaempferol	0.26	1		0.26	0.26	D	141
			Myricetin	1.61	1		1.61	1.61	D	141
			Quercetin	1.74	1		1.74	1.74	D	141
99623	Ginger, steamed	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.19	1		0.19	0.19	C	152
99644	Ginger, wild ( <i>Zingiber zerumbet</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	33.60	1		33.60	33.60	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11220	Gourd, dishcloth (towelgourd), raw ( <i>Luffa aegyptiaca</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	D	46
			Luteolin	0.01	1		0.01	0.01	D	46
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	46
			Myricetin	0.13	1		0.13	0.13	D	46
			Quercetin	0.03	1		0.03	0.03	D	46
99019	Hartwort, leaves	Flavones	Apigenin	0.00	1		0.00	0.00	B	267
			Luteolin	0.60	1		0.60	0.60	B	267
		Flavonols	Isorhamnetin	5.10	1		5.10	5.10	B	267
			Kaempferol	2.90	1		2.90	2.90	B	267
			Myricetin	1.60	1		1.60	1.60	B	267
			Quercetin	29.30	1		29.30	29.30	B	267
99376	Hawthorn leaves, raw	Flavones	Apigenin	0.40	1		0.40	0.40	D	253
			Luteolin	0.00	1		0.00	0.00	D	253
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	253
			Myricetin	0.00	1		0.00	0.00	D	253
			Quercetin	24.10	1		24.10	24.10	D	253
99079	Horseradish, root, whole	Flavones	Apigenin	0.00	1		0.00	0.00	C	170
			Luteolin	0.90	1		0.90	0.90	C	170
		Flavonols	Kaempferol	1.58	2	0.98	0.60	2.57	C	26, 170
			Myricetin	0.00	1		0.00	0.00	C	170
			Quercetin	0.28	2	0.28	0.00	0.57	C	26, 170
11886	Juice, tomato, canned, without salt added	Flavones	Apigenin	0.00	1		0.00	0.00	B	115
			Luteolin	0.00	1		0.00	0.00	B	115
		Flavonols	Kaempferol	0.06	7	0.02	0.00	0.08	B	115, 260
			Myricetin	0.05	1		0.05	0.05	B	115
			Quercetin	1.19	10	0.29	0.56	1.58	B	115, 189, 260
99054	Kale, canned	Flavones	Apigenin	0.00	2		0.00	0.00	C	116

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			Luteolin	0.00	2		0.00	0.00	C	116
		Flavonols	Kaempferol	18.40	2		18.40	18.40	C	116
			Myricetin	0.00	2		0.00	0.00	C	116
			Quercetin	4.50	2		4.50	4.50	C	116
99098	Kale, Chinese, raw		Flavones	Apigenin	0.01	1		0.01	0.01	D
			Luteolin	0.00	1		0.00	0.00	D	46
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	46
			Myricetin	0.01	1		0.01	0.01	D	46
			Quercetin	0.07	1		0.07	0.07	D	46
11233	Kale, raw ( <i>Brassica oleracea</i> ( <i>Acephala Group</i> ))	Flavones	Apigenin	0.00	4		0.00	0.00	B	116, 124, 170
			Luteolin	0.00	2		0.00	0.00	B	116, 170
		Flavonols	Isorhamnetin	23.60	3		23.60	23.60	C	123
			Kaempferol	46.80	18	5.56	0.48	90.50	B	26, 116, 123, 124, 134, 170, 197
			Myricetin	0.00	2		0.00	0.00	B	116, 170
		Quercetin	22.58	18	2.94	0.00	56.20	B	26, 116, 123, 124, 134, 170, 197	
11241	Kohlrabi, raw ( <i>Brassica oleracea</i> ( <i>Gongylodes Group</i> ))	Flavones	Apigenin	0.00	1		0.00	0.00	D	170
			Luteolin	1.30	1		1.30	1.30	D	170
		Flavonols	Kaempferol	2.43	1		2.43	2.43	D	170
			Myricetin	0.00	1		0.00	0.00	D	170
			Quercetin	0.40	1		0.40	0.40	D	170
11246	Leeks, (bulb and lower leaf-portion), raw ( <i>Allium ampeloprasum</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	5		0.00	0.00	B	116, 170
			Luteolin	0.00	5		0.00	0.00	B	116, 170
		Flavonols	Kaempferol	2.67	10	0.49	0.23	4.58	B	26, 116, 117, 134, 141, 170
			Myricetin	0.22	6	0.22	0.00	1.32	B	116, 141, 170
			Quercetin	0.09	8	0.06	0.00	0.50	B	26, 116, 117, 141, 170
		99112	Lemon balm, leaves, raw	Flavanones	Hesperetin	0.00	1		0.00	0.00
Flavones	Apigenin			0.00	1		0.00	0.00	C	133
	Luteolin			0.00	1		0.00	0.00	C	133
Flavonols	Isorhamnetin			0.00	1		0.00	0.00	C	133
	Kaempferol			0.00	1		0.00	0.00	C	133
		Quercetin	0.00	1		0.00	0.00	C	133	
11250	Lettuce, butterhead (includes	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	110

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	boston and bibb types), raw ( <i>Lactuca sativa</i> var. <i>capitata</i> )		Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(+)-Catechin	0.00	3		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	8		0.00	0.00	B	110
			Luteolin	0.00	4		0.00	0.00	B	110
		Flavonols	Kaempferol	0.02	3	0.01	0.00	0.04	C	26
			Myricetin	0.00	8		0.00	0.00	B	110
Quercetin	2.73		15	0.94	0.00	14.56	B	26, 110, 192		
11251	Lettuce, cos or romaine, raw ( <i>Lactuca sativa</i> var. <i>logifolia</i> )	Anthocyanidins	Cyanidin	0.00	11		0.00	0.00	B	72, 110
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	6		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	6		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	6		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	110
			(+)-Catechin	0.00	6		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	6		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.00	6		0.00	0.00	B	110
		Flavones	Apigenin	0.00	20	0.00	0.00	0.00	B	110, 303
			Luteolin	0.05	19	0.01	0.00	0.13	B	72, 110, 303
		Flavonols	Kaempferol	0.02	12	0.00	0.01	0.03	C	303
Myricetin	0.00		8		0.00	0.00	B	110		
Quercetin	2.20		23	0.61	0.06	8.78	B	72, 110, 303		
11253	Lettuce, green leaf, raw	Anthocyanidins	Cyanidin	0.00	24		0.00	0.00	B	11, 72, 110



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	<i>(Lactuca sativa var. crispa)</i>		Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.00	8		0.00	0.00	A	110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(+)-Catechin	0.00	2		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110
			Naringenin	0.00	2		0.00	0.00	B	110
		Flavones	Apigenin	0.13	18	0.13	0.00	2.30	B	11, 18, 46, 110, 124
			Luteolin	0.26	23	0.04	0.00	1.00	B	11, 12, 18, 46, 72, 110
		Flavonols	Kaempferol	0.01	17	0.01	0.00	0.20	B	11, 12, 18, 26, 46, 124, 141, 152
			Myricetin	0.07	13	0.07	0.00	0.90	B	12, 18, 46, 110, 141, 152
Quercetin	4.16		43	0.69	0.04	20.60	B	11, 12, 18, 26, 46, 72, 110, 124, 141, 152, 192		
11252	Lettuce, iceberg (includes crisphead types), raw ( <i>Lactuca sativa var. capitata</i> )	Anthocyanidins	Cyanidin	0.00	11		0.00	0.00	A	72, 110
			Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.00	8		0.00	0.00	A	110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	0.00	8		0.00	0.00	A	15, 110
			(-)-Epicatechin 3-gallate	0.00	8		0.00	0.00	A	15, 110
			(-)-Epigallocatechin	0.00	8		0.00	0.00	A	15, 110
			(-)-Epigallocatechin 3-gallate	0.00	8		0.00	0.00	A	15, 110
			(+)-Catechin	0.00	7		0.00	0.00	B	15, 110
			(+)-Gallocatechin	0.00	8		0.00	0.00	A	15, 110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.13	21	0.13	0.00	2.65	B	85, 110, 116, 170
			Luteolin	0.03	20	0.02	0.00	0.39	B	72, 85, 110, 116, 170
		Flavonols	Kaempferol	0.15	19	0.03	0.00	0.84	B	26, 85, 116, 170
			Myricetin	0.06	21	0.05	0.00	1.02	B	85, 110, 116, 170
			Quercetin	1.42	37	0.18	0.00	9.40	B	26, 51, 72, 85, 110, 116, 117,

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										170
97041	Lettuce, not specified as to type	Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.00	3		0.00	0.00	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
11257	Lettuce, red leaf, raw ( <i>Lactuca sativa</i> var. <i>crispa</i> )	Anthocyanidins	Cyanidin	3.14	24	1.08	0.00	20.80	B	11, 72, 110, 294
			Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.00	8		0.00	0.00	A	110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	0.00	5		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(+)-Catechin	0.00	5		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	5		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	0.00	22	0.00	0.00	0.00	B	11, 110, 303
			Luteolin	0.95	24	0.36	0.00	8.80	B	11, 72, 110, 303
		Flavonols	Kaempferol	0.02	14	0.00	0.00	0.02	B	11, 303
			Myricetin	0.00	8		0.00	0.00	A	110
Quercetin	7.61		29	1.80	0.45	44.90	B	11, 72, 110, 192, 303		
11031	Lima beans, immature seeds, raw ( <i>Phaseolus lunatus</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	0.00	3		0.00	0.00	C	123
			Quercetin	0.00	3		0.00	0.00	C	123
11254	Lotus root, raw ( <i>Nelumbo nucifera</i> )	Flavones	Luteolin	0.36	1		0.36	0.36	D	12
		Flavonols	Kaempferol	0.76	1		0.76	0.76	D	12
			Myricetin	0.59	1		0.59	0.59	D	12
			Quercetin	0.44	1		0.44	0.44	D	12
99111	Lovage, leaves, raw	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133
		Flavones	Apigenin	0.00	1		0.00	0.00	C	133
			Luteolin	0.00	1		0.00	0.00	C	133
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133
			Kaempferol	7.00	1		7.00	7.00	C	133

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			Quercetin	170.00	1		170.00	170.00	C	133
99374	Mizuna (Japanese mustard)	Flavonols	Isorhamnetin	3.84	9	0.38	0.00	11.03	B	178, 238
			Kaempferol	6.03	9	0.93	0.00	16.18	B	178, 238
			Quercetin	8.55	9	1.55	0.00	21.64	B	178, 238
11043	Mung beans, mature seeds, sprouted, raw ( <i>Vigna radiata</i> )	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	0.33	1		0.33	0.33	D	12
			Myricetin	0.00	1		0.00	0.00	D	12
			Quercetin	0.15	1		0.15	0.15	D	12
11264	Mushrooms, canned, drained solids	Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.00	4		0.00	0.00	B	116
11260	Mushrooms, white, raw ( <i>Agaricus bisporus</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.00	4		0.00	0.00	B	116
99662	Mustard greens, black, cooked, steamed	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.84	1		0.84	0.84	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11270	Mustard greens, raw ( <i>Brassica juncea</i> )	Flavonols	Isorhamnetin	16.20	3		16.20	16.20	C	123
			Kaempferol	38.30	3		38.30	38.30	C	123
			Quercetin	8.80	3		8.80	8.80	C	123
99373	Nalta jute, raw	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	4.61	7	0.61	2.43	11.80	C	12, 238
			Myricetin	1.93	1		1.93	1.93	D	12
			Quercetin	23.53	7	6.74	9.24	40.53	C	12, 238
11276	New Zealand spinach, raw ( <i>Tetragonia tetragonioides</i> )	Flavones	Apigenin	0.00	2		0.00	0.00	C	124
		Flavonols	Kaempferol	15.75	2	1.25	14.50	17.00	C	124
			Quercetin	5.75	2	0.45	5.30	6.20	C	124

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11278	Okra, raw ( <i>Abelmoschus esculentus</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123		
			Kaempferol	0.00	3		0.00	0.00	C	123		
			Quercetin	20.97	12	4.98	11.10	33.22	B	123, 238		
99383	Onion, spring, red, leaves	Flavonols	Kaempferol	4.10	1		4.10	4.10	D	194		
			Quercetin	12.60	1		12.60	12.60	D	194		
11283	Onions, cooked, boiled, drained, without salt	Flavonols	Kaempferol	0.34	28	0.06	0.29	0.41	B	76		
			Quercetin	24.36	32	3.93	19.87	31.00	B	76, 174		
11282	Onions, raw ( <i>Allium cepa</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	7		0.00	0.00	B	15, 58		
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58		
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	15, 58		
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58		
			(+)-Catechin	0.00	7		0.00	0.00	B	15, 58		
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	15, 58		
		Flavones	Apigenin	0.01	18	0.00	0.00	0.01	B	85, 116, 170, 239		
			Luteolin	0.02	19	0.01	0.00	0.19	B	12, 85, 116, 170, 239		
		Flavonols	Isorhamnetin	5.01	43	0.69	1.26	7.16	B	177, 271		
			Kaempferol	0.65	25	0.10	0.00	1.41	B	12, 27, 76, 85, 116, 117, 141, 170, 239		
			Myricetin	0.03	20	0.01	0.00	0.30	B	12, 85, 116, 141, 170, 239		
			Quercetin	20.30	400	0.78	1.50	90.75	A	12, 27, 76, 85, 116, 117, 134, 141, 166, 170, 174, 177, 179, 205, 206, 239, 271, 296		
99055	Onions, red, raw	Anthocyanidins	Cyanidin	3.19	43	1.04	0.36	46.43	B	11, 84, 85, 95, 207, 294		
			Delphinidin	4.28	7	1.49	0.10	5.95	B	85, 95		
			Pelargonidin	0.02	2		0.02	0.02	B	85		
			Peonidin	2.07	1		2.07	2.07	C	294		
		Flavones	Apigenin	0.24	9	0.23	0.00	2.10	B	11, 18, 85, 124, 170		
			Luteolin	0.16	7	0.16	0.00	1.10	B	11, 18, 85, 170		
		Flavonols	Isorhamnetin	4.58	52	0.42	1.81	22.60	B	84, 177, 207, 271		
			Kaempferol	0.70	11	0.44	0.00	4.50	B	11, 18, 27, 85, 124, 170		
			Myricetin	2.16	5	0.26	0.00	3.80	B	18, 85, 170		
			Quercetin	39.21	147	1.88	5.90	191.70	B	11, 18, 27, 51, 84, 85, 95, 124, 134, 166, 170, 177, 179, 206, 207, 216, 217, 271, 296		
		11291	Onions, spring or scallions (includes tops and bulb), raw ( <i>Allium cepa</i> or <i>Allium fistulosum</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	C	170
					Luteolin	0.00	1		0.00	0.00	C	170
Flavonols	Kaempferol			1.36	4	0.68	0.60	3.45	B	134, 152, 170		
	Myricetin			0.00	2		0.00	0.00	C	152, 170		
	Quercetin			10.68	4	2.69	0.00	18.00	B	134, 152, 170		

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99645	Onions, spring, red, bulb	Flavonols	Kaempferol	0.00	1		0.00	0.00	D	194
			Quercetin	30.60	1		30.60	30.60	D	194
11294	Onions, sweet, raw ( <i>Allium cepa</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	110
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
			Flavan-3-ols	(-)-Epicatechin	0.00	5		0.00	0.00	B
		(-)-Epicatechin 3-gallate		0.00	5		0.00	0.00	B	110
		(-)-Epigallocatechin		0.00	5		0.00	0.00	B	110
		(-)-Epigallocatechin 3-gallate		0.08	5	0.08	0.00	0.41	B	110
		(+)-Catechin		0.00	5		0.00	0.00	B	110
		(+)-Gallocatechin		0.00	5		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	0.00	10	0.00	0.00	0.01	B	85, 110
			Luteolin	0.01	6	0.00	0.00	0.02	B	85, 110
Flavonols	Kaempferol	1.14	10	0.22	0.00	1.98	B	27, 85, 248		
	Myricetin	1.14	15	0.44	0.00	4.13	B	85, 110, 248		
	Quercetin	14.52	28	0.63	0.97	46.32	B	27, 85, 110, 206, 248		
11293	Onions, welsh, raw ( <i>Allium fistulosum</i> )	Flavonols	Kaempferol	24.95	6	9.09	22.62	27.28	C	238
99082	Onions, white, cooked, boiled, drained	Flavonols	Quercetin	10.55	6	3.82	8.70	12.40	C	51
99081	Onions, white, pan-fried	Flavonols	Quercetin	26.90	3		26.90	26.90	C	51
99056	Onions, white, raw	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
			Flavones	Apigenin	0.00	5		0.00	0.00	B
		Luteolin		0.00	3		0.00	0.00	C	11, 239
		Flavonols	Isorhamnetin	0.49	41	0.07	0.00	1.13	B	177, 207, 271
			Kaempferol	0.00	5		0.00	0.00	B	11, 124, 239
			Myricetin	0.00	1		0.00	0.00	C	239
Quercetin	6.17	113	0.99	0.00	63.40	A	11, 50, 51, 124, 177, 206, 207, 216, 239, 271			
11292	Onions, young green, tops only ( <i>Allium cepa</i> )	Flavones	Apigenin	0.01	3		0.01	0.01	C	85
			Luteolin	0.02	3		0.02	0.02	C	85
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	3.60	6	1.28	2.40	4.80	C	85, 123

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			Myricetin	0.03	3		0.03	0.03	C	85
			Quercetin	0.00	6	0.00	0.00	0.01	C	85, 123
99642	Pako fern, steamed ( <i>Athyrium esculentum</i> )	Flavonols	Kaempferol	0.21	1		0.21	0.21	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.42	1		0.42	0.42	C	152
11297	Parsley, fresh ( <i>Petroselinum crispum</i> )	Flavanones	Hesperetin	0.00	4		0.00	0.00	C	133
		Flavones	Apigenin	215.46	26	36.08	0.00	630.00	B	124, 133, 134, 170, 238
			Luteolin	1.09	12	0.58	0.00	4.00	B	12, 133, 134, 170
		Flavonols	Isorhamnetin	0.00	4		0.00	0.00	C	133
			Kaempferol	1.49	28	0.09	0.00	4.51	B	12, 124, 133, 134, 170, 238
			Myricetin	14.84	4	6.76	8.08	21.60	C	12, 170
			Quercetin	0.28	12	0.18	0.00	1.00	B	12, 124, 133, 170
11298	Parsnips, raw ( <i>Pastinaca sativa</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	D	170
			Luteolin	0.00	1		0.00	0.00	D	170
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	170
			Myricetin	0.00	1		0.00	0.00	D	170
			Quercetin	0.99	1		0.99	0.99	D	170
11300	Peas, edible-podded, raw ( <i>Pisum sativum</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
11308	Peas, green (includes baby and lesuer types), canned, drained solids, unprepared	Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15
			(+)-Catechin	0.00	4		0.00	0.00	B	15
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	15
		Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.11	4		0.11	0.11	B	116
11313	Peas, green, frozen, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.03	2		0.03	0.03	C	85
			Delphinidin	0.03	2		0.03	0.03	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85
		Flavones	Apigenin	0.01	2		0.01	0.01	C	85

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			Luteolin	0.40	2		0.40	0.40	C	85
		Flavonols	Kaempferol	0.07	6	0.02	0.00	0.20	C	76, 85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.12	6	0.01	0.09	0.16	C	76, 85
11312	Peas, green, frozen, unprepared		Flavonols	Kaempferol	0.00	1		0.00	0.00	C
			Quercetin	0.15	1		0.15	0.15	C	76
11304	Peas, green, raw ( <i>Pisum sativum</i> )	Flavan-3-ols	(-)-Epicatechin	0.01	3		0.01	0.01	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.01	3		0.01	0.01	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavones	Apigenin	0.00	1		0.00	0.00	B	116
			Luteolin	0.00	1		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	116
			Myricetin	0.00	1		0.00	0.00	B	116
Quercetin	0.00		1		0.00	0.00	B	116, 238		
99041	Peppers, ancho	Flavones	Luteolin	3.36	1		3.36	3.36	D	161
		Flavonols	Quercetin	27.60	1		27.60	27.60	D	161
99088	Peppers, Californian (purchased in Hungary)	Flavones	Apigenin	0.00	1		0.00	0.00	D	170
			Luteolin	1.13	1		1.13	1.13	D	170
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	170
			Myricetin	0.00	1		0.00	0.00	D	170
			Quercetin	0.51	1		0.51	0.51	D	170
99384	Peppers, cascabella, raw	Flavones	Luteolin	0.60	1		0.60	0.60	C	122
		Flavonols	Quercetin	2.40	1		2.40	2.40	C	122
99369	Peppers, cayenne, raw	Flavones	Luteolin	1.73	1		1.73	1.73	C	122
		Flavonols	Quercetin	2.48	1		2.48	2.48	C	122
99370	Peppers, habanero, raw	Flavones	Luteolin	0.07	2	0.03	0.04	0.09	C	122
		Flavonols	Quercetin	0.30	2	0.16	0.14	0.46	C	122
11670	Peppers, hot chili, green, raw ( <i>Capsicum frutescens</i> )	Flavones	Apigenin	1.40	1		1.40	1.40	C	18
			Luteolin	3.87	3	1.24	1.40	5.15	C	18, 161
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	18
			Myricetin	1.20	1		1.20	1.20	C	18
99042	Peppers, hot, yellow wax, raw	Flavones	Luteolin	6.93	3	1.93	3.68	10.35	C	161
		Flavonols	Quercetin	50.63	3	14.61	28.83	78.38	C	161
11979	Peppers, jalapeno, raw	Flavones	Luteolin	1.34	5	0.64	0.00	3.75	C	161

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	( <i>Capsicum anuum</i> )	Flavonols	Quercetin	5.07	5	2.64	0.00	15.12	C	161
99372	Peppers, long yellow, raw	Flavones	Luteolin	1.68	1		1.68	1.68	C	122
		Flavonols	Quercetin	6.45	1		6.45	6.45	C	122
99356	Peppers, pimento	Flavones	Luteolin	10.36	6	3.75	8.58	12.13	C	238
11977	Peppers, serrano, raw ( <i>Capsicum anuum</i> )	Flavones	Luteolin	4.14	1		4.14	4.14	D	161
		Flavonols	Quercetin	15.98	1		15.98	15.98	D	161
11333	Peppers, sweet, green, raw ( <i>Capsicum annuum</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.00	3		0.00	0.00	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavones	Apigenin	0.00	4		0.00	0.00	C	11, 170, 239
			Luteolin	4.71	13	0.75	0.50	12.87	B	11, 12, 134, 170, 238, 239
		Flavonols	Kaempferol	0.06	6	0.05	0.00	0.32	B	11, 12, 141, 170, 239
Myricetin	0.00		4		0.00	0.00	C	12, 141, 170, 239		
Quercetin	2.21		17	0.32	0.06	4.23	B	11, 12, 134, 141, 170, 238, 239		
11821	Peppers, sweet, red, raw	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavan-3-ols	(-)-Epicatechin	0.00	7		0.00	0.00	B	15, 58
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	0.00	7		0.00	0.00	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	15, 58
			(+)-Catechin	0.00	7		0.00	0.00	B	15, 58
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	15, 58
		Flavones	Apigenin	0.00	6		0.00	0.00	B	11, 116
			Luteolin	0.61	10	0.14	0.10	1.10	B	11, 116, 134
		Flavonols	Kaempferol	0.02	7	0.02	0.00	0.16	B	11, 116, 141
			Myricetin	0.00	5		0.00	0.00	B	116, 141
			Quercetin	0.23	7	0.17	0.00	1.20	B	11, 116, 141
		11951	Peppers, sweet, yellow, raw ( <i>Capsicum annuum</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00
Flavones	Apigenin			0.00	2		0.00	0.00	C	11
	Luteolin			1.02	3	0.06	0.90	1.10	C	11, 122
Flavonols	Kaempferol			0.01	3	0.01	0.00	0.02	C	11, 141
	Myricetin			0.22	1		0.22	0.22	C	141
	Quercetin	1.04	4	0.40	0.08	2.00	C	11, 122, 141		
99371	Peppers, tabasco, raw	Flavones	Luteolin	3.57	1		3.57	3.57	C	122
		Flavonols	Quercetin	0.09	1		0.09	0.09	C	122



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99629	Peppers, tasmanian	Anthocyanidins	Cyanidin	752.68	1		752.68	752.68	C	191		
99105	Perilla leaves, raw	Flavones	Apigenin	0.07	1		0.07	0.07	D	46		
			Luteolin	0.32	1		0.32	0.32	D	46		
			Flavonols	Kaempferol	0.00	1		0.00	0.00	D	46	
		Myricetin	0.43	1		0.43	0.43	D	46			
		Quercetin	0.53	1		0.53	0.53	D	46			
11352	Potato, flesh and skin, raw ( <i>Solanum tuberosum</i> )	Anthocyanidins	Cyanidin	0.00	9		0.00	0.00	A	110		
			Delphinidin	0.00	9		0.00	0.00	A	110		
			Malvidin	0.00	9		0.00	0.00	A	110		
			Pelargonidin	0.00	9		0.00	0.00	A	110		
			Peonidin	0.00	9		0.00	0.00	A	110		
			Petunidin	0.00	9		0.00	0.00	A	110		
		Flavan-3-ols	(-)-Epicatechin	0.00	13		0.00	0.00	A	15, 110		
			(-)-Epicatechin 3-gallate	0.00	13		0.00	0.00	A	15, 110		
			(-)-Epigallocatechin	0.00	13		0.00	0.00	A	15, 110		
			(-)-Epigallocatechin 3-gallate	0.00	13		0.00	0.00	A	15, 110		
			(+)-Catechin	0.00	13		0.00	0.00	A	15, 110		
			(+)-Gallocatechin	0.00	13		0.00	0.00	A	15, 110		
		Flavanones	Hesperetin	0.00	9		0.00	0.00	A	110		
			Naringenin	0.00	9		0.00	0.00	A	110		
		Flavones	Apigenin	0.00	10		0.00	0.00	B	46, 110		
			Luteolin	0.00	7		0.00	0.00	B	12, 46, 110		
		Flavonols	Kaempferol	0.80	3	0.77	0.00	2.34	C	12, 46, 221		
			Myricetin	0.00	11		0.00	0.00	B	12, 46, 110		
			Quercetin	0.70	12	0.29	0.00	3.41	B	12, 46, 110, 221		
		11358	Potatoes, red, flesh and skin, baked	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	110
					Delphinidin	0.00	8		0.00	0.00	B	110
Malvidin	0.00				8		0.00	0.00	B	110		
Pelargonidin	0.00				8		0.00	0.00	B	110		
Peonidin	0.00				8		0.00	0.00	B	110		
Petunidin	0.00				8		0.00	0.00	B	110		
Flavan-3-ols	(-)-Epicatechin			0.00	7		0.00	0.00	B	110		
	(-)-Epicatechin 3-gallate			0.00	7		0.00	0.00	B	110		
	(-)-Epigallocatechin			0.00	7		0.00	0.00	B	110		
	(-)-Epigallocatechin 3-gallate			0.00	7		0.00	0.00	B	110		
	(+)-Catechin			0.00	7		0.00	0.00	B	110		
	(+)-Gallocatechin			0.00	7		0.00	0.00	B	110		
Flavanones	Hesperetin			0.00	7		0.00	0.00	B	110		

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			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	8		0.00	0.00	B	110
			Luteolin	0.00	4		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	8		0.00	0.00	B	110
			Quercetin	1.43	8	0.22	0.00	1.90	B	110
11355	Potatoes, red, flesh and skin, raw ( <i>Solanum tuberosum</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	110
			Delphinidin	0.00	3		0.00	0.00	B	110
			Malvidin	0.00	3		0.00	0.00	B	110
			Pelargonidin	0.00	3		0.00	0.00	B	110
			Peonidin	0.00	3		0.00	0.00	B	110
			Petunidin	0.00	3		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(+)-Catechin	0.00	2		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110
			Naringenin	0.00	2		0.00	0.00	B	110
		Flavones	Apigenin	0.00	3		0.00	0.00	B	110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	3		0.00	0.00	B	110
			Quercetin	0.65	3	0.34	0.00	1.13	B	110
11356	Potatoes, Russet, flesh and skin, baked	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	110
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	6		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	6		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	6		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	110
			(+)-Catechin	0.00	6		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	6		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.00	6		0.00	0.00	B	110
		Flavones	Apigenin	0.00	8		0.00	0.00	B	110

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			Luteolin	0.00	4		0.00	0.00	B	110	
		Flavonols	Myricetin	0.00	8		0.00	0.00	B	110	
11357	Potatoes, white, flesh and skin, baked	Flavonols	Quercetin	0.73	8	0.22	0.00	1.60	B	110	
			Anthocyanidins	Cyanidin	0.00	6		0.00	0.00	B	110
				Delphinidin	0.00	6		0.00	0.00	B	110
		Malvidin		0.00	6		0.00	0.00	B	110	
		Pelargonidin		0.00	6		0.00	0.00	B	110	
		Peonidin		0.00	6		0.00	0.00	B	110	
		Petunidin		0.00	6		0.00	0.00	B	110	
		Flavan-3-ols		(-)-Epicatechin	0.00	6		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	6		0.00	0.00	B	110	
			(-)-Epigallocatechin	0.00	6		0.00	0.00	B	110	
			(-)-Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	110	
			(+)-Catechin	0.00	6		0.00	0.00	B	110	
			(+)-Gallocatechin	0.00	6		0.00	0.00	B	110	
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110	
			Naringenin	0.00	6		0.00	0.00	B	110	
		Flavones	Apigenin	0.00	6		0.00	0.00	B	110	
			Luteolin	0.00	3		0.00	0.00	B	110	
		Flavonols	Myricetin	0.00	6		0.00	0.00	B	110	
Quercetin	1.19		6	0.44	0.00	2.60	B	110			
11354	Potatoes, white, flesh and skin, raw ( <i>Solanum tuberosum</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	110	
			Delphinidin	0.00	3		0.00	0.00	B	110	
			Malvidin	0.00	3		0.00	0.00	B	110	
			Pelargonidin	0.00	3		0.00	0.00	B	110	
			Peonidin	0.00	3		0.00	0.00	B	110	
			Petunidin	0.00	3		0.00	0.00	B	110	
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	B	110	
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	B	110	
			(-)-Epigallocatechin	0.00	3		0.00	0.00	B	110	
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	110	
			(+)-Catechin	0.00	3		0.00	0.00	B	110	
			(+)-Gallocatechin	0.00	3		0.00	0.00	B	110	
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	110	
			Naringenin	0.00	3		0.00	0.00	B	110	
		Flavones	Apigenin	0.00	3		0.00	0.00	B	110	
			Luteolin	0.00	2		0.00	0.00	B	110	
		Flavonols	Myricetin	0.00	3		0.00	0.00	B	110	

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11422	Pumpkin, raw ( <i>Cucurbita spp.</i> )	Flavones	Quercetin	0.49	3	0.30	0.00	1.04	B	110
			Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	1.63	1		1.63	1.63	C	169
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	152
			Kaempferol	0.00	2		0.00	0.00	C	152, 169
			Myricetin	0.00	2		0.00	0.00	C	152, 169
			Quercetin	0.00	2		0.00	0.00	C	152, 169
11427	Purslane, raw ( <i>Portulaca oleracea</i> )	Flavones	Apigenin	0.00	2		0.00	0.00	B	116
			Luteolin	0.00	2		0.00	0.00	B	116
		Flavonols	Isorhamnetin	2.80	3		2.80	2.80	C	123
			Kaempferol	0.66	5	0.22	0.00	1.10	C	116, 123
			Myricetin	0.00	2		0.00	0.00	B	116
			Quercetin	0.78	5	0.26	0.00	1.30	C	116, 123
		99032	Queen Anne's Lace, leaves, raw	Flavones	Apigenin	12.60	1		12.60	12.60
Luteolin	34.10				1		34.10	34.10	B	267
Flavonols	Isorhamnetin			0.00	1		0.00	0.00	B	267
	Kaempferol			0.20	1		0.20	0.20	B	267
	Myricetin			0.40	1		0.40	0.40	B	267
	Quercetin			1.10	1		1.10	1.10	B	267
11952	Radicchio, raw ( <i>Cichorium intybus</i> )			Anthocyanidins	Cyanidin	126.99	6	32.72	59.82	253.85
		Delphinidin	7.68		6	2.98	1.94	20.76	C	127
		Flavones	Luteolin	37.98	6	9.88	16.60	77.27	C	127
		Flavonols	Quercetin	31.51	6	8.73	9.06	52.73	C	127
		99386	Radish leaves, raw	Flavonols	Kaempferol	7.72	3		7.72	7.72
			Quercetin	70.37	3		70.37	70.37	C	238
11676	Radish seeds, sprouted, raw ( <i>Raphanus sativus</i> )	Flavonols	Kaempferol	21.85	9	6.00	13.76	35.18	B	238
11430	Radishes, oriental, raw ( <i>Raphanus sativus</i> ( <i>Longipinratus</i> Group))	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	0.34	1		0.34	0.34	D	12
			Myricetin	0.00	1		0.00	0.00	D	12
			Quercetin	0.00	1		0.00	0.00	D	12
11429	Radishes, raw ( <i>Raphanus sativus</i> )	Anthocyanidins	Cyanidin	0.00	7		0.00	0.00	B	110
			Delphinidin	0.00	7		0.00	0.00	B	110
			Malvidin	0.00	7		0.00	0.00	B	110
			Pelargonidin	63.13	15	10.20	7.40	128.05	B	110, 294
			Peonidin	0.00	7		0.00	0.00	B	110
			Petunidin	0.00	7		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	B	110

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			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	3		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	110
			(+)-Catechin	0.00	3		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	3		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	110
			Naringenin	0.00	3		0.00	0.00	B	110
		Flavones	Apigenin	0.00	13		0.00	0.00	A	110, 116, 170
			Luteolin	0.00	9		0.00	0.00	B	110, 116, 170
		Flavonols	Kaempferol	0.86	7	0.15	0.40	2.11	B	26, 116, 170
			Myricetin	0.00	13		0.00	0.00	A	110, 116, 170
			Quercetin	0.00	14		0.00	0.00	B	26, 110, 116, 170
99634	Rocket, wild, raw ( <i>Diplotaxis tenuifolia</i> )	Flavonols	Isorhamnetin	0.78	3		0.78	0.78	C	178
			Kaempferol	1.78	3		1.78	1.78	C	178
			Quercetin	66.19	3		66.19	66.19	C	178
11435	Rutabagas, raw ( <i>Brassica napus</i> var. <i>napobrassica</i> )	Flavones	Apigenin	3.85	4	3.85	0.00	15.40	B	116, 170
			Luteolin	0.00	4		0.00	0.00	B	116, 170
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	0.32	7	0.32	0.00	2.27	B	116, 123, 170
			Myricetin	2.13	4	2.13	0.00	8.54	B	116, 170
			Quercetin	0.05	7	0.05	0.00	0.32	B	116, 123, 170
11439	Sauerkraut, canned, solids and liquids	Flavones	Apigenin	0.02	5	0.02	0.00	0.12	B	47, 116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.03	7	0.01	0.00	0.08	C	47, 116
			Myricetin	0.01	5	0.01	0.00	0.06	B	47, 116
			Quercetin	0.01	5	0.01	0.00	0.06	B	47, 116
99627	Seaweed ( <i>Caulerpa racemosa</i> , Nama), Green algae (sea grapes or green caviar), raw	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
99628	Seaweed ( <i>Gracilaria</i> sp, Lumi), Red algae, raw	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11450	Soybeans, green, raw ( <i>Glycine max</i> )	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	1.23	1		1.23	1.23	D	12
			Myricetin	0.00	1		0.00	0.00	D	12
			Quercetin	0.03	1		0.03	0.03	D	12

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11463	Spinach, frozen, chopped or leaf, unprepared	Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	116
			Myricetin	0.00	4		0.00	0.00	B	116
			Quercetin	0.00	4		0.00	0.00	B	116
11457	Spinach, raw ( <i>Spinacia oleracea</i> )	Flavones	Apigenin	0.00	9	0.00	0.00	0.01	B	46, 85, 116, 170
			Luteolin	0.74	10	0.66	0.00	6.64	B	12, 46, 85, 116, 170
		Flavonols	Kaempferol	6.38	12	4.43	0.00	55.00	B	12, 46, 85, 116, 141, 170, 194
			Myricetin	0.35	11	0.34	0.00	3.75	B	12, 46, 85, 116, 141, 170
			Quercetin	3.97	12	2.37	0.00	27.22	B	12, 46, 85, 116, 141, 170, 194
11478	Squash, summer, zucchini, includes skin, cooked, boiled, drained, without salt	Flavonols	Quercetin	0.47	10	0.05	0.25	0.73	C	7
11477	Squash, summer, zucchini, includes skin, raw	Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.00	3		0.00	0.00	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavonols	Quercetin	0.66	5	0.13	0.40	1.12	C	7
11506	Sweet potato leaves, cooked, steamed, without salt	Flavonols	Isorhamnetin	0.13	1		0.13	0.13	C	152
			Kaempferol	0.75	4	0.13	0.42	1.04	B	152
			Myricetin	2.93	4	0.28	2.40	3.64	B	152
			Quercetin	9.84	4	0.96	7.36	11.70	B	152
11505	Sweet potato leaves, raw ( <i>Ipomoea batatas</i> )	Flavones	Apigenin	0.06	4	0.06	0.00	0.24	C	46, 85
			Luteolin	0.11	4	0.10	0.00	0.41	C	46, 85
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	123
			Kaempferol	2.13	8	0.42	0.00	5.00	B	46, 85, 123, 152
			Myricetin	4.38	5	2.90	0.03	15.59	B	46, 85, 152
Quercetin	16.94	8	3.17	2.60	27.90	B	46, 85, 123, 152			
11510	Sweet potato, cooked, boiled, without skin	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	B	152
			Kaempferol	0.00	4		0.00	0.00	B	152
			Myricetin	0.00	4		0.00	0.00	B	152
			Quercetin	0.00	4		0.00	0.00	B	152
99385	Sweet potato, purple, cooked	Anthocyanidins	Cyanidin	10.60	1		10.60	10.60	C	85
			Delphinidin	0.90	1		0.90	0.90	C	85
			Pelargonidin	0.02	1		0.02	0.02	C	85
11507	Sweet potato, raw, unprepared	Flavones	Apigenin	0.01	2		0.01	0.01	C	85

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	<i>(Ipomoea batatas)</i>		Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.01	2		0.01	0.01	C	85
11521	Taro leaves, cooked, steamed, without salt	Anthocyanidins	Cyanidin	0.02	1		0.02	0.02	C	85
			Delphinidin	0.02	1		0.02	0.02	C	85
			Pelargonidin	0.02	1		0.02	0.02	C	85
		Flavonols	Isorhamnetin	0.14	1		0.14	0.14	B	152
			Kaempferol	0.00	1		0.00	0.00	B	152
			Myricetin	0.14	1		0.14	0.14	B	152
			Quercetin	0.14	1		0.14	0.14	B	152
11520	Taro leaves, raw ( <i>Colocasia esculenta</i> )	Flavones	Apigenin	0.01	1		0.01	0.01	C	85
			Luteolin	0.02	1		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	1		0.01	0.01	C	85
			Myricetin	0.03	1		0.03	0.03	C	85
			Quercetin	0.01	1		0.01	0.01	C	85
11519	Taro, cooked, without salt	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	B	152
			Kaempferol	0.23	3	0.23	0.00	0.68	B	152
			Myricetin	0.00	3		0.00	0.00	B	152
			Quercetin	0.11	3	0.11	0.00	0.34	B	152
11518	Taro, raw ( <i>Colocasia esculenta</i> )	Flavonols	Quercetin	2.87	3		2.87	2.87	C	238
11547	Tomato products, canned, puree, without salt added	Flavonols	Kaempferol	0.08	9	0.02	0.03	0.13	C	260
			Quercetin	4.12	9	1.10	1.63	7.09	C	260
99011	Tomatoes, cherry, raw	Flavanones	Naringenin	3.19	1		3.19	3.19	C	224
		Flavones	Luteolin	0.00	1		0.00	0.00	C	11
			Kaempferol	0.10	67	0.01	0.00	0.27	B	11, 260
			Quercetin	2.76	91	0.21	0.17	20.30	B	11, 51, 224, 260
99051	Tomatoes, plum, raw	Flavonols	Kaempferol	0.00	3		0.00	0.00	C	260
			Quercetin	0.03	3		0.03	0.03	C	260
11531	Tomatoes, red, ripe, canned, packed in tomato juice	Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.50	2		0.50	0.50	C	85
11530	Tomatoes, red, ripe, cooked	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	110
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110

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			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	5		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	5		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	110
			(+)-Catechin	0.00	5		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	5		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110
			Naringenin	0.00	5		0.00	0.00	B	110
		Flavones	Apigenin	0.00	10	0.00	0.00	0.01	B	85, 110
			Luteolin	0.01	6	0.00	0.00	0.02	B	85, 110
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.01	10	0.00	0.00	0.03	B	85, 110
Quercetin	0.70		10	0.22	0.00	1.76	B	85, 110		
11529	Tomatoes, red, ripe, raw, year round average ( <i>Lycopersicon esculentum</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	A	110
			Delphinidin	0.00	8		0.00	0.00	A	110
			Malvidin	0.00	8		0.00	0.00	A	110
			Pelargonidin	0.00	8		0.00	0.00	A	110
			Peonidin	0.00	8		0.00	0.00	A	110
			Petunidin	0.00	8		0.00	0.00	A	110
		Flavan-3-ols	(-)-Epicatechin	0.00	13		0.00	0.00	A	15, 58, 110
			(-)-Epicatechin 3-gallate	0.00	13		0.00	0.00	A	15, 58, 110
			(-)-Epigallocatechin	0.00	13		0.00	0.00	A	15, 58, 110
			(-)-Epigallocatechin 3-gallate	0.00	13		0.00	0.00	A	15, 58, 110
			(+)-Catechin	0.00	13		0.00	0.00	A	15, 58, 110
			(+)-Gallocatechin	0.00	13		0.00	0.00	A	15, 58, 110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.68	11	0.16	0.00	1.50	A	110, 134
		Flavones	Apigenin	0.00	16	0.00	0.00	0.01	A	18, 85, 110, 116, 170
			Luteolin	0.00	15	0.00	0.00	0.02	B	11, 12, 18, 85, 110, 116, 170
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	152
			Kaempferol	0.09	49	0.02	0.00	0.84	B	11, 12, 18, 85, 116, 141, 152, 170, 260
			Myricetin	0.13	22	0.03	0.00	0.92	B	12, 18, 85, 110, 116, 141, 152, 170, 238
			Quercetin	0.58	96	0.01	0.00	3.80	B	11, 12, 18, 51, 85, 110, 116,



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											134, 141, 152, 170, 238, 260
11696	Tomatoes, yellow, raw ( <i>Lycopersicon esculentum</i> )	Flavonols	Kaempferol	0.04	3		0.04	0.04	C	260	
			Quercetin	0.21	3		0.21	0.21	C	260	
99656	Tree spinach, cooked	Flavonols	Kaempferol	3.40	2	1.60	1.81	5.00	C	151	
			Quercetin	2.01	2	2.01	0.00	4.02	C	151	
99364	Tree Spinach, raw ( <i>Cnidoscolus aconitifolius</i> )	Flavonols	Kaempferol	4.03	2	1.79	2.24	5.82	C	151	
			Quercetin	3.08	2	1.39	1.69	4.47	C	151	
99617	Turmeric, steamed ( <i>Curcuma longa</i> )	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	152	
			Myricetin	2.04	1		2.04	2.04	C	152	
			Quercetin	4.92	1		4.92	4.92	C	152	
11568	Turnip greens, raw ( <i>Brassica rapa</i> (Rapifera Group))	Flavones	Apigenin	0.00	2		0.00	0.00	B	116	
			Luteolin	0.00	2		0.00	0.00	B	116	
		Flavonols	Kaempferol	11.87	5	4.51	4.80	16.59	B	116, 238	
			Myricetin	0.00	2		0.00	0.00	B	116	
		Quercetin	0.73	2		0.73	0.73	B	116		
11587	Vinespinach, (basella), raw ( <i>Basella alba</i> )	Flavones	Apigenin	62.20	6	22.71	62.10	62.31	C	238	
99107	Water spinach	Flavones	Apigenin	0.01	1		0.01	0.01	C	46	
			Luteolin	0.04	1		0.04	0.04	C	46	
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152	
			Kaempferol	0.26	2	0.26	0.00	0.52	C	46, 152	
			Myricetin	0.01	2	0.01	0.00	0.03	C	46, 152	
		Quercetin	1.65	2	1.47	0.18	3.12	C	46, 152		
11591	Watercress, raw ( <i>Nasturtium officinale</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	133	
		Flavones	Apigenin	0.01	5	0.00	0.00	0.01	B	85, 133	
			Luteolin	0.02	5	0.01	0.00	0.02	B	85, 133	
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	133	
			Kaempferol	23.03	8	3.66	1.00	59.08	B	85, 133, 178	
			Myricetin	0.20	4		0.20	0.20	B	85	
		Quercetin	29.99	8	6.74	4.00	67.58	B	85, 133, 178		
99647	Watercress, steamed	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152	
			Kaempferol	0.27	1		0.27	0.27	C	152	
			Myricetin	0.00	1		0.00	0.00	C	152	
			Quercetin	0.63	1		0.63	0.63	C	152	
11602	Yam, cooked, boiled, drained, or baked, without salt	Flavonols	Isorhamnetin	0.00	2		0.00	0.00	B	152	
			Kaempferol	0.00	3		0.00	0.00	B	152	
			Myricetin	0.00	3		0.00	0.00	B	152	
			Quercetin	0.25	3	0.25	0.00	0.76	B	152	

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99637	Yam, winged or water, red, boiled ( <i>Dioscorea alata</i> var <i>Vura</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
99638	Yam, winged or water, white, boiled ( <i>Dioscorea alata</i> var <i>Vura</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
11200	Yardlong bean, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	1.10	2		1.10	1.10	C	85
			Delphinidin	0.02	2		0.02	0.02	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85
		Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.50	2		0.50	0.50	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
		Quercetin	5.30	2		5.30	5.30	C	85	
<b>12 – Nuts and Seeds</b>										
99602	Chia seeds, raw	Flavonols	Kaempferol	12.30	3	0.29	12.01	12.87	C	17
			Quercetin	18.42	3	1.84	15.10	21.44	C	17
99622	Coconut, immature flesh, raw	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152
			Kaempferol	0.00	1		0.00	0.00	C	152
			Myricetin	0.00	1		0.00	0.00	C	152
			Quercetin	0.00	1		0.00	0.00	C	152
12061	Nuts, almonds ( <i>Prunus dulcis</i> )	Anthocyanidins	Cyanidin	2.46	8	0.58	0.00	4.40	B	110
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.60	12	0.10	0.00	1.27	B	110, 183
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin	2.59	3	0.31	1.97	2.98	B	110
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(+)-Catechin	1.28	12	0.33	0.00	3.86	B	110, 183
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110
		Flavanones	Eriodictyol	0.25	8	0.06	0.03	0.57	B	183
			Hesperetin	0.00	4		0.00	0.00	B	110
Naringenin	0.43		51	0.05	0.00	1.05	B	30, 110, 183		

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		Flavones	Apigenin	0.00	8		0.00	0.00	B	110
			Luteolin	0.00	4		0.00	0.00	B	110
		Flavonols	Isorhamnetin	2.64	47	0.27	0.91	10.32	B	30, 183
			Kaempferol	0.39	47	0.04	0.11	0.71	B	30, 183
			Myricetin	0.00	8		0.00	0.00	B	110
			Quercetin	0.36	16	0.11	0.00	1.09	B	110, 183
12078	Nuts, brazilnuts, dried, unblanched ( <i>Bertholletia excelsa</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	110
			Delphinidin	0.00	2		0.00	0.00	B	110
			Malvidin	0.00	2		0.00	0.00	B	110
			Pelargonidin	0.00	2		0.00	0.00	B	110
			Peonidin	0.00	2		0.00	0.00	B	110
			Petunidin	0.00	2		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(+)-Catechin	0.00	2		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110
			Naringenin	0.00	2		0.00	0.00	B	110
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	110
Quercetin	0.00		2		0.00	0.00	B	110		
12086	Nuts, cashew nuts, oil roasted, without salt added	Anthocyanidins	Cyanidin	0.00	7		0.00	0.00	B	110
			Delphinidin	0.00	7		0.00	0.00	B	110
			Malvidin	0.00	7		0.00	0.00	B	110
			Pelargonidin	0.00	7		0.00	0.00	B	110
			Peonidin	0.00	7		0.00	0.00	B	110
			Petunidin	0.00	7		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.93	6	0.22	0.00	1.44	B	110
			(-)-Epicatechin 3-gallate	0.15	6	0.10	0.00	0.59	B	110
			(-)-Epigallocatechin	0.00	6		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	110
			(+)-Catechin	0.90	6	0.28	0.00	1.79	B	110
			(+)-Gallocatechin	0.00	6		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	110
			Naringenin	0.00	6		0.00	0.00	B	110

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		Flavones	Apigenin	0.00	7		0.00	0.00	B	110		
			Luteolin	0.00	3		0.00	0.00	B	110		
		Flavonols	Myricetin	0.00	7		0.00	0.00	B	110		
			Quercetin	0.00	7		0.00	0.00	B	110		
12098	Nuts, chestnuts, european, raw, peeled	Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58		
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58		
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58		
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58		
			(+)-Catechin	0.01	3		0.01	0.01	C	58		
			(+)-Gallocatechin	0.01	3		0.01	0.01	C	58		
12119	Nuts, coconut water (liquid from coconuts)	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	152		
			Kaempferol	0.00	1		0.00	0.00	C	152		
			Myricetin	0.00	1		0.00	0.00	C	152		
			Quercetin	0.00	1		0.00	0.00	C	152		
12120	Nuts, hazelnuts or filberts ( <i>Corylus spp.</i> )	Anthocyanidins	Cyanidin	6.71	7	1.18	4.40	13.60	B	110		
			Delphinidin	0.00	8		0.00	0.00	B	110		
			Malvidin	0.00	8		0.00	0.00	B	110		
			Pelargonidin	0.00	8		0.00	0.00	B	110		
			Peonidin	0.00	8		0.00	0.00	B	110		
			Petunidin	0.00	8		0.00	0.00	B	110		
		Flavan-3-ols	(-)-Epicatechin	0.22	5	0.09	0.00	0.44	B	110		
			(-)-Epicatechin 3-gallate	0.00	5		0.00	0.00	B	110		
			(-)-Epigallocatechin	2.78	5	1.21	0.00	5.54	B	110		
			(-)-Epigallocatechin 3-gallate	1.06	5	0.46	0.00	2.26	B	110		
			(+)-Catechin	1.19	5	0.49	0.00	2.09	B	110		
			(+)-Gallocatechin	0.00	5		0.00	0.00	B	110		
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	110		
			Naringenin	0.00	5		0.00	0.00	B	110		
		Flavones	Apigenin	0.00	8		0.00	0.00	B	110		
			Luteolin	0.00	4		0.00	0.00	B	110		
		Flavonols	Myricetin	0.00	8		0.00	0.00	B	110		
			Quercetin	0.00	8		0.00	0.00	B	110		
		12131	Nuts, macadamia nuts, raw ( <i>Macadamia integrifolia</i> , <i>M. tetraphylla</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	110
					Delphinidin	0.00	2		0.00	0.00	B	110
Malvidin	0.00				2		0.00	0.00	B	110		
Pelargonidin	0.00				2		0.00	0.00	B	110		
Peonidin	0.00				2		0.00	0.00	B	110		
Petunidin	0.00				2		0.00	0.00	B	110		

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		Flavan-3-ols	(-)-Epicatechin	0.00	2		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	110
			(+)-Catechin	0.00	2		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	110
			Naringenin	0.00	2		0.00	0.00	B	110
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	110
			Quercetin	0.00	2		0.00	0.00	B	110
12142	Nuts, pecans ( <i>Carya illinoensis</i> )	Anthocyanidins	Cyanidin	10.74	7	1.50	6.21	17.40	B	110
			Delphinidin	7.28	7	0.92	3.99	9.90	B	110
			Malvidin	0.00	7		0.00	0.00	B	110
			Pelargonidin	0.00	7		0.00	0.00	B	110
			Peonidin	0.00	7		0.00	0.00	B	110
			Petunidin	0.00	7		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.82	7	0.08	0.48	1.17	B	110
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin	5.63	7	1.47	0.00	13.20	B	110
			(-)-Epigallocatechin 3-gallate	2.30	7	0.46	0.00	3.46	B	110
			(+)-Catechin	7.24	7	0.51	4.89	9.17	B	110
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	110
			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	7		0.00	0.00	B	110
			Luteolin	0.00	3		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	7		0.00	0.00	B	110
			Quercetin	0.00	7		0.00	0.00	B	110
12149	Nuts, pine nuts, pinyon, dried ( <i>Pinus edulis</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	110
			Delphinidin	0.00	2		0.00	0.00	B	110
			Malvidin	0.00	2		0.00	0.00	B	110
			Pelargonidin	0.00	2		0.00	0.00	B	110
			Peonidin	0.00	2		0.00	0.00	B	110
			Petunidin	0.00	2		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	B	110

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			(-)-Epigallocatechin	0.49	3	0.25	0.00	0.75	B	110
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	110
			(+)-Catechin	0.00	3		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	3		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	110
			Naringenin	0.00	3		0.00	0.00	B	110
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	110
			Quercetin	0.00	2		0.00	0.00	B	110
12151	Nuts, pistachio nuts, raw ( <i>Pistacia vera</i> )	Anthocyanidins	Cyanidin	7.33	15	0.75	3.15	14.30	B	110, 294
			Delphinidin	0.00	8		0.00	0.00	B	110
			Malvidin	0.00	8		0.00	0.00	B	110
			Pelargonidin	0.00	8		0.00	0.00	B	110
			Peonidin	0.00	8		0.00	0.00	B	110
			Petunidin	0.00	8		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.83	7	0.46	0.00	3.15	B	110
			(-)-Epicatechin 3-gallate	0.00	7		0.00	0.00	B	110
			(-)-Epigallocatechin	2.05	7	0.82	0.00	5.65	B	110
			(-)-Epigallocatechin 3-gallate	0.40	7	0.40	0.00	2.83	B	110
			(+)-Catechin	3.57	7	1.00	0.00	6.39	B	110
			(+)-Gallocatechin	0.00	7		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	110
			Naringenin	0.00	7		0.00	0.00	B	110
		Flavones	Apigenin	0.00	8		0.00	0.00	B	110
			Luteolin	0.00	4		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	8		0.00	0.00	B	110
			Quercetin	1.46	8	0.64	0.00	4.30	B	110
99409	Nuts, walnuts (not specified at to type, purchased in Hungary)	Flavones	Apigenin	0.00	1		0.00	0.00	C	169
			Luteolin	0.00	1		0.00	0.00	C	169
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	169
			Quercetin	0.00	1		0.00	0.00	C	169
12155	Nuts, walnuts, english ( <i>Juglans regia</i> )	Anthocyanidins	Cyanidin	2.71	6	0.25	2.11	3.74	B	110
			Delphinidin	0.00	6		0.00	0.00	B	110
			Malvidin	0.00	6		0.00	0.00	B	110
			Pelargonidin	0.00	6		0.00	0.00	B	110
			Peonidin	0.00	6		0.00	0.00	B	110
			Petunidin	0.00	6		0.00	0.00	B	110

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		Flavan-3-ols	(-)-Epicatechin	0.00	4		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	110
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	110
			(+)-Catechin	0.00	4		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	110
			Naringenin	0.00	4		0.00	0.00	B	110
		Flavones	Apigenin	0.00	6		0.00	0.00	B	110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	6		0.00	0.00	B	110
			Quercetin	0.00	6		0.00	0.00	B	110
<b>14 - Beverages</b>										
14003	Alcoholic beverage, beer, regular, all	Flavan-3-ols	(-)-Epicatechin	0.08	14	0.02	0.00	0.38	B	16, 49, 58, 180, 226
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	16, 58
			(-)-Epigallocatechin	0.00	4		0.00	0.00	B	16, 58
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	16, 58
			(+)-Catechin	0.38	15	0.06	0.00	1.01	B	1, 16, 49, 58, 180, 226
			(+)-Gallocatechin	0.08	4	0.03	0.00	0.10	B	16, 58
		Flavanones	Hesperetin	0.00	1		0.00	0.00	C	1
			Naringenin	0.00	1		0.00	0.00	C	1
		Flavones	Apigenin	0.00	1		0.00	0.00	B	115
			Luteolin	0.00	1		0.00	0.00	B	115
		Flavonols	Kaempferol	0.81	2	0.81	0.00	1.63	B	1, 115
			Myricetin	0.02	2	0.02	0.00	0.05	B	1, 115
			Quercetin	0.02	11	0.01	0.00	0.09	B	1, 49, 115, 226
99611	Alcoholic beverage, sparkling wine, Champagne	Flavan-3-ols	(-)-Epicatechin	0.10	4	0.03	0.04	0.19	C	40
			(+)-Catechin	0.20	4	0.10	0.03	0.49	C	40
		Flavonols	Quercetin	0.01	4	0.00	0.01	0.02	C	40
99323	Alcoholic beverage, wine, berry, colored	Flavonols	Kaempferol	0.03	28	0.01	0.00	0.33	B	196, 284
			Myricetin	0.72	28	0.12	0.13	2.26	B	196, 284
			Quercetin	0.63	28	0.08	0.14	2.43	B	196, 284
99074	Alcoholic beverage, wine, berry, white	Flavonols	Kaempferol	0.00	2		0.00	0.00	B	284
			Myricetin	0.00	2		0.00	0.00	B	284
			Quercetin	0.20	2	0.20	0.00	0.41	B	284
14057	Alcoholic beverage, wine, dessert, sweet	Anthocyanidins	Delphinidin	3.90	4		3.90	3.90	C	211
			Malvidin	94.83	4		94.83	94.83	C	211
			Peonidin	3.93	4		3.93	3.93	C	211

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			Petunidin	6.63	4		6.63	6.63	C	211
		Flavan-3-ols	(-)-Epicatechin	7.56	4		7.56	7.56	C	211
			(+)-Catechin	9.86	4		9.86	9.86	C	211
		Flavonols	Quercetin	1.94	4		1.94	1.94	C	211
99075	Alcoholic beverage, wine, sherry	Flavan-3-ols	(-)-Epicatechin	1.25	3		1.25	1.25	C	19
			(+)-Catechin	1.60	6	0.47	0.37	2.37	C	19, 106
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	229
			Kaempferol	0.00	3		0.00	0.00	C	229
			Myricetin	0.00	3		0.00	0.00	C	229
		Quercetin	0.01	3		0.01	0.01	C	229	
14096	Alcoholic beverage, wine, table, red	Anthocyanidins	Cyanidin	0.19	91	0.06	0.00	4.50	B	6, 70, 86, 90, 96, 195, 243
			Delphinidin	2.01	147	0.14	0.02	5.71	B	6, 70, 90, 96, 102, 195, 211, 243
			Malvidin	13.84	166	0.78	0.00	53.57	B	6, 70, 86, 90, 96, 102, 195, 211, 243, 263
			Peonidin	1.25	147	0.08	0.02	5.03	B	6, 70, 90, 96, 102, 195, 211, 243
			Petunidin	1.98	147	0.14	0.02	5.66	B	6, 70, 90, 96, 102, 195, 211, 243
		Flavan-3-ols	(-)-Epicatechin	3.79	938	0.10	0.00	16.50	A	6, 16, 56, 58, 86, 96, 100, 101, 102, 179, 211, 231, 232, 233, 262, 263
			(-)-Epicatechin 3-gallate	0.01	16	0.01	0.00	0.11	A	16, 56, 58
			(-)-Epigallocatechin	0.06	15	0.01	0.00	0.28	A	16, 58
			(-)-Epigallocatechin 3-gallate	0.00	15		0.00	0.00	A	16, 58
			(+)-Catechin	7.14	939	0.19	0.00	39.00	A	1, 16, 56, 58, 86, 96, 100, 101, 102, 179, 211, 231, 232, 233, 262, 263
			(+)-Gallocatechin	0.08	15	0.02	0.00	0.42	A	16, 58
		Flavanones	Hesperetin	0.63	2	0.36	0.27	0.99	C	1
			Naringenin	1.77	2	0.74	1.03	2.51	C	1
		Flavones	Apigenin	0.13	24	0.02	0.00	0.47	B	90, 115, 239
			Luteolin	0.04	39	0.01	0.00	0.40	B	79, 80, 115, 239
		Flavonols	Isorhamnetin	0.02	64	0.00	0.00	0.16	B	71, 79, 80, 229, 251
			Kaempferol	0.09	166	0.01	0.00	1.37	B	1, 71, 79, 80, 96, 115, 229, 231, 232, 233, 239, 251, 268, 284
			Myricetin	0.42	219	0.01	0.00	1.79	B	1, 71, 79, 80, 86, 90, 96, 115, 134, 179, 229, 231, 232, 233, 239, 251, 268, 284
			Quercetin	1.04	313	0.04	0.00	3.36	A	1, 71, 79, 80, 86, 90, 96, 101, 115, 134, 168, 179, 211, 229, 231, 232, 233, 239, 251, 262, 268, 284



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14098	Alcoholic beverage, wine, table, red, Cabernet Franc	Anthocyanidins	Delphinidin	3.90	5		3.90	3.90	C	211
			Malvidin	44.09	5		44.09	44.09	C	211
			Peonidin	2.40	5		2.40	2.40	C	211
			Petunidin	4.70	5		4.70	4.70	C	211
		Flavan-3-ols	(-)-Epicatechin	9.20	5		9.20	9.20	C	211
			(+)-Catechin	6.21	5		6.21	6.21	C	211
		Flavones	Luteolin	0.06	3	0.04	0.01	0.13	C	79
		Flavonols	Isorhamnetin	0.05	3	0.01	0.02	0.06	C	79
			Kaempferol	0.02	3	0.01	0.00	0.03	C	79
			Myricetin	0.08	3	0.03	0.04	0.14	C	79
Quercetin	0.62		8	0.20	0.14	0.84	C	79, 211		
14097	Alcoholic beverage, wine, table, red, Cabernet Sauvignon	Anthocyanidins	Delphinidin	4.18	17	0.93	1.50	5.71	B	195, 211
			Malvidin	26.24	17	6.06	8.67	37.97	B	195, 211
			Peonidin	1.85	17	0.43	0.70	2.66	B	195, 211
			Petunidin	3.32	17	0.77	1.21	4.78	B	195, 211
		Flavan-3-ols	(-)-Epicatechin	10.66	16	2.57	10.28	11.30	B	211
			(+)-Catechin	7.70	16	1.86	6.90	8.18	B	211
		Flavones	Luteolin	0.04	24	0.00	0.01	0.11	B	79, 80
		Flavonols	Isorhamnetin	0.02	24	0.00	0.00	0.05	B	79, 80
			Kaempferol	0.01	24	0.00	0.00	0.03	B	79, 80
			Myricetin	0.28	24	0.04	0.03	0.45	B	79, 80
Quercetin	0.58		40	0.08	0.02	1.21	B	79, 80, 211		
14100	Alcoholic beverage, wine, table, red, Syrah or Shiraz	Anthocyanidins	Delphinidin	9.35	2		9.35	9.35	C	211
			Malvidin	121.65	2		121.65	121.65	C	211
			Peonidin	7.82	2		7.82	7.82	C	211
			Petunidin	14.16	2		14.16	14.16	C	211
		Flavan-3-ols	(-)-Epicatechin	9.97	2		9.97	9.97	C	211
			(+)-Catechin	6.82	2		6.82	6.82	C	211
		Flavonols	Quercetin	2.11	2		2.11	2.11	C	211
99439	Alcoholic beverage, wine, table, rose	Flavan-3-ols	(-)-Epicatechin	0.37	3		0.37	0.37	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.07	3		0.07	0.07	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.71	3		0.71	0.71	C	58
			(+)-Gallocatechin	0.18	3		0.18	0.18	C	58
14106	Alcoholic beverage, wine, table, white	Anthocyanidins	Cyanidin	0.00	6		0.00	0.00	B	86
			Malvidin	0.06	7	0.04	0.00	0.24	B	86, 263
		Flavan-3-ols	(-)-Epicatechin	0.55	50	0.12	0.05	6.00	B	6, 16, 23, 58, 86, 232, 263

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			(-)-Epicatechin 3-gallate	0.00	9		0.00	0.00	A	16, 58
			(-)-Epigallocatechin	0.00	9		0.00	0.00	A	16, 58
			(-)-Epigallocatechin 3-gallate	0.00	9		0.00	0.00	A	16, 58
			(+)-Catechin	0.77	52	0.18	0.00	5.80	B	1, 6, 16, 23, 58, 86, 232, 263
			(+)-Gallocatechin	0.00	9	0.00	0.00	0.01	A	16, 58
		Flavanones	Hesperetin	0.40	2	0.08	0.32	0.48	C	1
			Naringenin	0.38	2	0.38	0.00	0.77	C	1
		Flavones	Apigenin	0.00	2		0.00	0.00	B	115
			Luteolin	0.00	2		0.00	0.00	B	115
		Flavonols	Isorhamnetin	0.00	32	0.00	0.00	0.02	B	71, 229, 251
			Kaempferol	0.01	39	0.01	0.00	0.27	B	1, 71, 115, 229, 232, 251, 284
			Myricetin	0.01	45	0.00	0.00	0.10	B	1, 71, 86, 115, 229, 232, 251, 284
			Quercetin	0.04	76	0.01	0.00	0.84	B	1, 23, 71, 86, 115, 229, 232, 251, 284
14192	Cocoa mix, powder	Flavan-3-ols	(-)-Epicatechin	31.22	45	2.83	18.00	73.03	C	8, 31
			(+)-Catechin	21.51	30	3.08	12.07	29.74	C	8
		Flavonols	Quercetin	2.03	30	0.12	0.96	5.46	C	8
14194	Cocoa mix, powder, prepared with water	Flavan-3-ols	(-)-Epicatechin	0.59	3		0.59	0.59	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.74	3		0.74	0.74	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
14209	Coffee, brewed from grounds, prepared with tap water	Flavan-3-ols	(-)-Epicatechin	0.04	4	0.02	0.00	0.06	B	16, 58
			(-)-Epicatechin 3-gallate	0.00	4		0.00	0.00	B	16, 58
			(-)-Epigallocatechin	0.04	4	0.02	0.00	0.05	B	16, 58
			(-)-Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	16, 58
			(+)-Catechin	0.00	4		0.00	0.00	B	16, 58
			(+)-Gallocatechin	0.00	4		0.00	0.00	B	16, 58
		Flavones	Apigenin	0.00	1		0.00	0.00	B	115
			Luteolin	0.00	1		0.00	0.00	B	115
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	115
			Myricetin	0.05	1		0.05	0.05	B	115
			Quercetin	0.05	1		0.05	0.05	B	115
14355	Tea, black, brewed, prepared with tap water	Flavan-3-ols	(-)-Epicatechin	2.13	94	0.10	0.15	8.74	B	16, 34, 58, 64, 143, 149, 160, 179, 225, 272
			(-)-Epicatechin 3-gallate	5.86	94	0.17	0.80	18.98	B	16, 34, 58, 64, 143, 149, 160, 179, 225, 272

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			(-)-Epigallocatechin	8.05	94	0.45	0.29	31.04	B	16, 34, 58, 64, 143, 149, 160, 179, 225, 272
			(-)-Epigallocatechin 3-gallate	9.36	94	0.46	0.68	40.66	B	16, 34, 58, 64, 143, 149, 160, 179, 225, 272
			(+)-Catechin	1.51	55	0.07	0.35	4.79	B	16, 58, 64, 149, 179
			(+)-Gallocatechin	1.25	9	0.22	0.56	2.78	A	16, 58
			Theaflavin	1.58	39	0.16	0.36	5.27	B	64, 259, 272
			Theaflavin-3, 3'-digallate	1.75	39	0.21	0.06	4.96	B	64, 259, 272
			Theaflavin-3'-gallate	1.51	39	0.16	0.12	4.13	B	64, 259, 272
			Thearubigins	81.30	32	9.76	48.28	139.50	A	225, 272
		Flavones	Apigenin	0.00	10		0.00	0.00	A	115
			Luteolin	0.00	10		0.00	0.00	A	115
		Flavonols	Kaempferol	1.41	64	0.09	0.44	2.41	B	115, 134, 179, 218, 225, 272, 291
			Myricetin	0.45	32	0.01	0.17	0.90	A	115, 134, 179, 272, 291
			Quercetin	2.19	64	0.04	0.89	4.75	B	115, 134, 179, 218, 225, 272, 291
14352	Tea, black, brewed, prepared with tap water, decaffeinated	Flavan-3-ols	(-)-Epicatechin	0.49	4	0.13	0.34	0.87	B	272
			(-)-Epicatechin 3-gallate	0.64	4	0.36	0.25	1.71	B	272
			(-)-Epigallocatechin	0.55	4	0.16	0.36	1.01	B	272
			(-)-Epigallocatechin 3-gallate	1.01	4	0.48	0.49	2.45	B	272
			Theaflavin	0.35	4	0.18	0.08	0.86	B	272
			Theaflavin-3, 3'-digallate	0.43	4	0.37	0.00	1.52	B	272
			Theaflavin-3'-gallate	0.18	4	0.15	0.00	0.61	B	272
			Thearubigins	49.03	4	1.13	46.05	51.52	B	272
		Flavones	Apigenin	0.00	3		0.00	0.00	C	239
			Luteolin	0.00	3		0.00	0.00	C	239
		Flavonols	Kaempferol	0.88	7	0.20	0.39	1.84	B	239, 272
			Myricetin	0.89	7	0.30	0.26	2.10	B	239, 272
			Quercetin	2.74	7	0.12	2.46	3.38	B	239, 272
99342	Tea, black, ready-to-drink, diet, plain and flavored	Flavan-3-ols	(-)-Epicatechin	0.37	6	0.16	0.00	1.05	B	272
			(-)-Epicatechin 3-gallate	0.08	6	0.08	0.00	0.49	B	272
			(-)-Epigallocatechin	0.09	6	0.05	0.00	0.29	B	272
			(-)-Epigallocatechin 3-gallate	0.12	6	0.11	0.00	0.68	B	272
			Theaflavin	0.01	6	0.01	0.00	0.03	B	272
			Theaflavin-3, 3'-digallate	0.00	6		0.00	0.00	B	272
			Theaflavin-3'-gallate	0.00	6		0.00	0.00	B	272
			Thearubigins	15.82	6	2.93	4.72	21.27	B	272

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		Flavonols	Kaempferol	0.33	6	0.10	0.00	0.64	B	272
			Myricetin	0.12	6	0.04	0.00	0.20	B	272
			Quercetin	0.72	6	0.23	0.02	1.59	B	272
99341	Tea, black, ready-to-drink, plain and flavored	Flavan-3-ols	(-)-Epicatechin	0.49	17	0.15	0.00	2.66	B	272
			(-)-Epicatechin 3-gallate	0.21	17	0.06	0.00	0.67	B	272
			(-)-Epigallocatechin	0.85	17	0.42	0.00	7.45	B	272
			(-)-Epigallocatechin 3-gallate	0.51	17	0.19	0.00	3.11	B	272
			Theaflavin	0.05	17	0.02	0.00	0.19	B	272
			Theaflavin-3, 3'-digallate	0.04	17	0.02	0.00	0.31	B	272
			Theaflavin-3'-gallate	0.02	17	0.01	0.00	0.09	B	272
			Thearubigins	25.49	17	3.17	7.80	56.78	B	272
		Flavonols	Kaempferol	0.66	17	0.08	0.14	1.23	B	272
			Myricetin	0.87	17	0.09	0.11	1.46	B	272
Quercetin	0.74		17	0.15	0.20	2.10	B	272		
99365	Tea, fruit flavored, brewed	Flavan-3-ols	(-)-Epicatechin	2.30	6	0.16	2.00	3.00	C	142
			(-)-Epicatechin 3-gallate	2.73	6	0.20	2.20	3.60	C	142
			(-)-Epigallocatechin	1.07	6	0.06	0.90	1.30	C	142
			(-)-Epigallocatechin 3-gallate	4.15	6	0.42	3.30	6.10	C	142
			(+)-Catechin	0.00	6		0.00	0.00	C	142
99069	Tea, green, brewed, decaffeinated	Flavan-3-ols	(-)-Epicatechin	6.16	2	0.85	5.31	7.01	B	272
			(-)-Epicatechin 3-gallate	7.57	2	1.15	6.42	8.72	B	272
			(-)-Epigallocatechin	16.02	2	0.46	15.56	16.48	B	272
			(-)-Epigallocatechin 3-gallate	26.05	2	0.69	25.36	26.73	B	272
			Theaflavin	0.12	2	0.08	0.04	0.20	B	272
			Theaflavin-3, 3'-digallate	0.11	2	0.10	0.01	0.21	B	272
			Theaflavin-3'-gallate	0.04	2	0.04	0.00	0.08	B	272
			Thearubigins	8.78	2	3.14	5.65	11.92	B	272
		Flavonols	Kaempferol	1.00	2	0.18	0.81	1.18	B	272
			Myricetin	1.00	2	0.11	0.89	1.11	B	272
Quercetin	2.77		2	0.37	2.40	3.13	B	272		
99068	Tea, green, brewed, flavored	Flavan-3-ols	(-)-Epicatechin	4.45	5	0.50	3.77	6.38	B	272
			(-)-Epicatechin 3-gallate	5.11	5	0.74	3.09	7.69	B	272
			(-)-Epigallocatechin	13.34	5	1.87	8.80	19.44	B	272
			(-)-Epigallocatechin 3-gallate	19.97	5	3.05	12.77	29.78	B	272
			Theaflavin	0.02	5	0.01	0.00	0.04	B	272
			Theaflavin-3, 3'-digallate	0.00	5	0.00	0.00	0.01	B	272
			Theaflavin-3'-gallate	0.00	5		0.00	0.00	B	272
Thearubigins	8.14	5	4.98	0.00	22.07	B	272			

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		Flavonols	Kaempferol	0.54	5	0.05	0.36	0.64	B	272
			Myricetin	0.58	5	0.04	0.48	0.73	B	272
			Quercetin	1.69	5	0.12	1.34	2.07	B	272
99354	Tea, green, large leaf, Quingmao, brewed	Flavan-3-ols	(-)-Epicatechin	20.80	2	0.80	20.00	21.60	C	249
			(-)-Epicatechin 3-gallate	147.80	2	3.00	144.80	150.80	C	249
			(-)-Epigallocatechin	19.80	2	0.80	19.00	20.60	C	249
			(-)-Epigallocatechin 3-gallate	68.20	2	3.00	65.20	71.20	C	249
			(+)-Catechin	67.60	2	1.20	66.40	68.80	C	249
99343	Tea, green, ready-to-drink	Flavan-3-ols	(-)-Epicatechin	1.98	2	0.11	1.88	2.09	B	272
			(-)-Epicatechin 3-gallate	0.93	2	0.06	0.87	0.98	B	272
			(-)-Epigallocatechin	4.99	2	0.53	4.47	5.52	B	272
			(-)-Epigallocatechin 3-gallate	3.96	2	0.40	3.56	4.35	B	272
			Theaflavin	0.02	2	0.02	0.00	0.04	B	272
			Theaflavin-3, 3'-digallate	0.00	2		0.00	0.00	B	272
			Theaflavin-3'-gallate	0.00	2		0.00	0.00	B	272
			Thearubigins	0.00	2		0.00	0.00	B	272
		Flavonols	Kaempferol	0.32	2	0.08	0.24	0.40	B	272
			Myricetin	1.03	2	0.08	0.95	1.10	B	272
			Quercetin	0.21	2	0.01	0.19	0.22	B	272
99324	Tea, iced, lemon flavor, ready-to-drink	Flavan-3-ols	(-)-Epicatechin	0.08	1		0.08	0.08	B	16
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	16
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	16
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	16
			(+)-Catechin	0.00	1		0.00	0.00	B	16
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	16
99344	Tea, instant, decaffeinated, prepared	Flavan-3-ols	(-)-Epicatechin	0.07	4	0.07	0.00	0.30	B	272
			(-)-Epicatechin 3-gallate	0.14	4	0.14	0.00	0.54	B	272
			(-)-Epigallocatechin	0.25	4	0.23	0.00	0.94	B	272
			(-)-Epigallocatechin 3-gallate	0.45	4	0.45	0.00	1.81	B	272
			Theaflavin	0.01	4	0.01	0.00	0.03	B	272
			Theaflavin-3, 3'-digallate	0.01	4	0.01	0.00	0.03	B	272
			Theaflavin-3'-gallate	0.00	4	0.00	0.00	0.01	B	272
			Thearubigins	8.87	4	8.87	0.00	35.47	B	272
		Flavonols	Kaempferol	0.38	4	0.15	0.02	0.69	B	272
			Myricetin	0.49	4	0.30	0.00	1.36	B	272
			Quercetin	0.60	4	0.25	0.05	1.16	B	272
99349	Tea, instant, diet, prepared	Flavan-3-ols	(-)-Epicatechin	0.25	4	0.23	0.00	0.93	B	272

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			(-)-Epicatechin 3-gallate	0.11	4	0.11	0.00	0.45	B	272
			(-)-Epigallocatechin	0.66	4	0.64	0.00	2.59	B	272
			(-)-Epigallocatechin 3-gallate	0.49	4	0.49	0.00	1.98	B	272
			Theaflavin	0.00	4	0.00	0.00	0.01	B	272
			Theaflavin-3, 3'-digallate	0.00	4		0.00	0.00	B	272
			Theaflavin-3'-gallate	0.00	4	0.00	0.00	0.00	B	272
			Thearubigins	10.19	4	1.84	5.20	14.00	B	272
		Flavonols	Kaempferol	0.12	4	0.08	0.02	0.35	B	272
			Myricetin	0.07	4	0.04	0.01	0.19	B	272
			Quercetin	0.25	4	0.15	0.04	0.70	B	272
99350	Tea, instant, sweetened with sugar, plain and flavored, prepared	Flavan-3-ols	(-)-Epicatechin	0.24	8	0.08	0.00	0.62	B	272
			(-)-Epicatechin 3-gallate	0.14	8	0.05	0.00	0.33	B	272
			(-)-Epigallocatechin	0.54	8	0.20	0.00	1.75	B	272
			(-)-Epigallocatechin 3-gallate	0.55	8	0.14	0.00	1.10	B	272
			Theaflavin	0.00	8	0.00	0.00	0.03	B	272
			Theaflavin-3, 3'-digallate	0.00	8		0.00	0.00	B	272
			Theaflavin-3'-gallate	0.00	8		0.00	0.00	B	272
			Thearubigins	27.95	8	5.58	8.64	55.67	B	272
		Flavonols	Kaempferol	0.42	3	0.26	0.11	0.94	B	272
			Myricetin	0.87	3	0.38	0.13	1.38	B	272
			Quercetin	0.34	3	0.25	0.08	0.84	B	272
14367	Tea, instant, unsweetened, powder, prepared	Flavan-3-ols	(-)-Epicatechin	0.31	3	0.21	0.00	0.70	B	272
			(-)-Epicatechin 3-gallate	0.24	3	0.23	0.00	0.70	B	272
			(-)-Epigallocatechin	0.61	3	0.43	0.00	1.44	B	272
			(-)-Epigallocatechin 3-gallate	0.86	3	0.80	0.00	2.46	B	272
			Theaflavin	0.01	3	0.00	0.00	0.01	B	272
			Theaflavin-3, 3'-digallate	0.01	3	0.00	0.00	0.01	B	272
			Theaflavin-3'-gallate	0.00	3	0.00	0.00	0.00	B	272
			Thearubigins	23.65	3	8.85	8.35	39.02	B	272
		Flavonols	Kaempferol	0.32	3	0.15	0.07	0.57	B	272
			Myricetin	0.21	3	0.14	0.00	0.47	B	272
			Quercetin	0.87	3	0.46	0.08	1.66	B	272
99071	Tea, oolong, brewed	Flavan-3-ols	(-)-Epicatechin	2.54	16	0.06	1.20	4.50	B	143, 149, 160, 165
			(-)-Epicatechin 3-gallate	6.33	16	0.69	0.30	12.10	B	143, 149, 160, 165
			(-)-Epigallocatechin	6.10	16	0.29	1.80	16.37	B	143, 149, 160, 165
			(-)-Epigallocatechin 3-gallate	34.48	16	4.76	7.36	71.10	B	143, 149, 160, 165
			(+)-Catechin	0.23	13	0.02	0.00	0.70	B	149, 165
		Flavones	Apigenin	0.00	1		0.00	0.00	B	115

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			Luteolin	0.00	1		0.00	0.00	B	115
		Flavonols	Kaempferol	0.90	1		0.90	0.90	B	115
			Myricetin	0.49	1		0.49	0.49	B	115
			Quercetin	1.30	1		1.30	1.30	B	115
99582	Tea, white, brewed		Flavan-3-ols	(-)-Epicatechin 3-gallate	8.35	6	3.04	7.50	9.20	C
		(-)-Epigallocatechin		18.65	6	6.81	17.90	19.40	C	235
		(-)-Epigallocatechin 3-gallate		42.45	6	15.47	38.90	46.00	C	235
<b>16 – Legumes and Legume Products</b>										
16014	Beans, black, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Anthocyanidins	Delphinidin	18.50	1		18.50	18.50	D	294
			Malvidin	10.61	1		10.61	10.61	D	294
			Petunidin	15.41	1		15.41	15.41	D	294
99396	Beans, common, raw (P. vulgaris, cv. Zolfino) ( <i>Phaseolus vulgaris</i> , cv. Zolfino)	Anthocyanidins	Delphinidin	2.50	12	0.43	0.00	9.99	B	234
			Malvidin	0.10	12	0.02	0.00	0.40	B	234
			Petunidin	0.14	12	0.02	0.00	0.55	B	234
		Flavonols	Kaempferol	26.00	177	1.82	8.00	52.82	C	63, 234
			Quercetin	0.00	12	0.00	0.00	0.01	B	234
16029	Beans, kidney, all types, mature seeds, canned	Flavan-3-ols	(-)-Epicatechin	0.35	1		0.35	0.35	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	1.66	1		1.66	1.66	C	15
			(+)-Galocatechin	0.00	1		0.00	0.00	C	15
16033	Beans, kidney, red, mature seeds, cooked, boiled, without salt	Flavonols	Kaempferol	0.11	1		0.11	0.11	C	152
			Myricetin	0.33	1		0.33	0.33	C	152
			Quercetin	6.82	1		6.82	6.82	C	152
16032	Beans, kidney, red, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Anthocyanidins	Cyanidin	1.86	1		1.86	1.86	D	294
			Pelargonidin	4.82	1		4.82	4.82	D	294
16042	Beans, pinto, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Flavan-3-ols	(-)-Epicatechin	0.14	3		0.14	0.14	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.05	3		0.05	0.05	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	5.07	3		5.07	5.07	C	58
			(+)-Galocatechin	0.00	3		0.00	0.00	C	58
		Flavonols	Kaempferol	2.35	1		2.35	2.35	C	75
			Quercetin	0.23	1		0.23	0.23	C	75
16049	Beans, white, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Flavan-3-ols	(-)-Epicatechin	0.09	3		0.09	0.09	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58

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			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.01	3		0.01	0.01	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
		Flavonols	Kaempferol	3.40	6	1.10	1.19	5.61	B	238
16054	Broadbeans (fava beans), mature seeds, canned	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.00	1		0.00	0.00	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
		Flavones	Apigenin	0.00	4		0.00	0.00	B	116
			Luteolin	0.00	4		0.00	0.00	B	116
		Flavonols	Kaempferol	0.35	4		0.35	0.35	B	116
Myricetin	0.00		4		0.00	0.00	B	116		
Quercetin	0.55		4		0.55	0.55	B	116		
99399	Carob fiber (Caromax)	Flavonols	Kaempferol	11.67	4	2.32	6.75	17.74	C	204
			Myricetin	47.74	4	1.95	43.75	51.76	C	204
			Quercetin	58.13	4	9.03	39.11	74.97	C	204
16055	Carob flour ( <i>Ceratonia siliqua</i> )	Flavan-3-ols	(-)-Epicatechin 3-gallate	30.06	3		30.06	30.06	C	238
			(-)-Epigallocatechin 3-gallate	109.46	3		109.46	109.46	C	238
			(+)-Catechin	50.75	3		50.75	50.75	C	238
		Flavonols	Kaempferol	0.44	3	0.31	0.00	1.03	C	204
			Myricetin	6.73	3	1.12	5.03	8.83	C	204
			Quercetin	38.78	6	11.49	5.92	69.76	B	204, 238
99400	Carob kibbles	Flavonols	Kaempferol	0.57	1		0.57	0.57	C	204
			Myricetin	11.67	1		11.67	11.67	C	204
			Quercetin	3.63	1		3.63	3.63	C	204
16056	Chickpeas (garbanzo beans, bengal gram), mature seeds, raw ( <i>Cicer arietinum</i> )	Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58
			(+)-Catechin	0.00	3		0.00	0.00	C	58
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58
99657	Cowpeas, black seed cultivar, mature seeds, raw ( <i>Vigna unguiculata Subsp. Sinensis</i> )	Anthocyanidins	Cyanidin	94.72	3		94.72	94.72	C	41
			Delphinidin	94.60	3		94.60	94.60	C	41
			Malvidin	34.28	3		34.28	34.28	C	41
			Peonidin	11.07	3		11.07	11.07	C	41



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			Petunidin	27.82	3		27.82	27.82	C	41
		Flavonols	Kaempferol	1.92	3		1.92	1.92	C	41
			Myricetin	2.74	3		2.74	2.74	C	41
			Quercetin	17.22	3		17.22	17.22	C	41
16069	Lentils, raw ( <i>Lens culinaris</i> )		Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C
		(-)-Epicatechin 3-gallate		0.00	3		0.00	0.00	C	58
		(-)-Epigallocatechin		0.00	3		0.00	0.00	C	58
		(-)-Epigallocatechin 3-gallate		0.00	3		0.00	0.00	C	58
		(+)-Catechin		0.35	3		0.35	0.35	C	58
		(+)-Gallocatechin		0.14	3		0.14	0.14	C	58
99404	Locust bean powder	Flavonols	Kaempferol	0.53	1		0.53	0.53	C	204
			Myricetin	0.00	1		0.00	0.00	C	204
			Quercetin	3.33	1		3.33	3.33	C	204
99022	Marrowfat pea, canned, drained solids	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	5.64	1		5.64	5.64	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.00	1		0.00	0.00	C	15
			(+)-Gallocatechin	4.33	1		4.33	4.33	C	15
16089	Peanuts, all types, oil-roasted, with salt	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	110
			Delphinidin	0.00	1		0.00	0.00	B	110
			Malvidin	0.00	1		0.00	0.00	B	110
			Pelargonidin	0.00	1		0.00	0.00	B	110
			Peonidin	0.00	1		0.00	0.00	B	110
			Petunidin	0.00	1		0.00	0.00	B	110
		Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	B	110
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	110
			(-)-Epigallocatechin	0.66	1		0.66	0.66	B	110
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	110
			(+)-Catechin	0.00	1		0.00	0.00	B	110
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	110
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	110
			Naringenin	0.00	1		0.00	0.00	B	110
		Flavones	Apigenin	0.00	1		0.00	0.00	B	110
		Flavonols	Myricetin	0.00	1		0.00	0.00	B	110
			Quercetin	0.00	1		0.00	0.00	B	110
99686	Soybeans, black, mature seeds, raw	Flavan-3-ols	(-)-Epicatechin	37.41	3		37.41	37.41	C	238

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16126	Tofu, firm, prepared with calcium sulfate and magnesium chloride (nigari)	Flavones	Luteolin	0.00	1		0.00	0.00	D	12	
		Flavonols	Kaempferol	1.19	1		1.19	1.19	D	12	
			Myricetin	0.00	1		0.00	0.00	D	12	
			Quercetin	0.00	1		0.00	0.00	D	12	
<b>18 – Baked Products</b>											
18075	Bread, whole-wheat, commercially prepared	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15	
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15	
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15	
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15	
			(+)-Catechin	0.00	1		0.00	0.00	C	15	
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15	
99016	Greek greens pie (prepared from wild greens)	Flavones	Apigenin	0.00	1		0.00	0.00	B	267	
			Luteolin	6.60	1		6.60	6.60	B	267	
		Flavonols	Isorhamnetin	1.80	1		1.80	1.80	B	267	
			Kaempferol	4.30	1		4.30	4.30	B	267	
			Myricetin	1.40	1		1.40	1.40	B	267	
			Quercetin	12.40	1		12.40	12.40	B	267	
<b>19 - Sweets</b>											
19078	Baking chocolate, unsweetened, squares	Flavan-3-ols	(-)-Epicatechin	141.83	6	23.58	66.00	201.00	B	105	
			(+)-Catechin	64.33	6	15.49	26.00	117.00	B	105	
43201	Bee Pollen	Flavan-3-ols	(-)-Epicatechin	0.00	3		0.00	0.00	C	58	
			(-)-Epicatechin 3-gallate	0.00	3		0.00	0.00	C	58	
			(-)-Epigallocatechin	0.00	3		0.00	0.00	C	58	
			(-)-Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	58	
			(+)-Catechin	0.00	3		0.00	0.00	C	58	
			(+)-Gallocatechin	0.00	3		0.00	0.00	C	58	
		Flavonols	Isorhamnetin	0.68	11		0.01	0.64	0.7	B	8
			Kaempferol	1.12	11	0.10	0.71	1.68	B	32	
			Myricetin	3.34	11	1.13	0.00	13.64	B	32	
			Quercetin	20.95	11	1.36	16.22	31.76	B	32	
97034	Cacao beans	Flavan-3-ols	(-)-Epicatechin	99.18	3		99.18	99.18	C	238	
			(-)-Epigallocatechin	156.67	3		156.67	156.67	C	238	
			(+)-Catechin	88.45	3		88.45	88.45	C	238	
			(+)-Gallocatechin	8262.00	3		8262.00	8262.00	C	238	
99412	Candies, chocolate, dark	Flavan-3-ols	(-)-Epicatechin	84.40	5	13.54	52.00	125.00	C	105	
			(+)-Catechin	24.20	5	5.70	11.00	40.00	C	105	
99321	Candies, dark chocolate	Flavan-3-ols	(-)-Epicatechin	41.50	2	8.75	32.74	50.25	B	15	

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	(purchased in the Netherlands)		(-)-Epicatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	2		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(+)-Catechin	11.99	2	1.24	10.75	13.24	B	15
			(+)-Gallocatechin	0.00	2		0.00	0.00	B	15
19120	Candies, milk chocolate	Flavan-3-ols	(-)-Epicatechin	10.88	9	2.68	2.18	24.00	B	15, 58, 105
			(-)-Epicatechin 3-gallate	0.00	6		0.00	0.00	B	15, 58
			(-)-Epigallocatechin	0.00	6		0.00	0.00	B	15, 58
			(-)-Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	15, 58
			(+)-Catechin	4.16	9	1.21	1.25	12.00	B	15, 58, 105
			(+)-Gallocatechin	0.00	6		0.00	0.00	B	15, 58
19165	Cocoa, dry powder, unsweetened	Flavan-3-ols	(-)-Epicatechin	196.43	13	45.38	158.00	258.00	B	8, 105
			(+)-Catechin	64.82	13	14.53	61.00	90.00	B	8, 105
		Flavonols	Quercetin	10.00	11	2.36	8.99	20.13	B	8, 153
19166	Cocoa, dry powder, unsweetened, processed with alkali	Flavan-3-ols	(-)-Epicatechin	56.60	12	15.76	18.00	62.32	B	8, 105
			(+)-Catechin	36.71	12	9.91	23.00	38.25	B	8, 105
		Flavonols	Quercetin	3.37	10		3.37	3.37	C	8
99035	Honey, mixed varieties (samples obtained in Argentina, Australia, Italy, Portugaul and Spain)	Flavones	Apigenin	0.03	40	0.00	0.03	0.07	B	97, 140
			Luteolin	0.28	83	0.04	0.02	3.19	B	97, 128, 140, 298, 299
		Flavonols	Isorhamnetin	0.06	61	0.01	0.00	0.40	B	97, 140, 298, 299
			Kaempferol	0.06	67	0.01	0.03	0.17	B	97, 140, 298, 299
			Myricetin	0.36	76	0.04	0.00	2.73	B	128, 140, 298, 299
			Quercetin	0.31	83	0.02	0.02	1.30	B	97, 128, 140, 298, 299
19719	Jams and preserves, apricot	Flavan-3-ols	(-)-Epicatechin	0.28	16	0.05	0.00	0.57	B	15, 67
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(+)-Catechin	0.31	16	0.06	0.15	0.49	B	15, 67
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	15
		Flavonols	Kaempferol	0.06	21	0.01	0.00	0.20	B	67, 265
			Quercetin	0.31	21	0.06	0.04	1.05	B	67, 265
99114	Jams and preserves, cherry	Flavan-3-ols	(-)-Epicatechin	0.90	1		0.90	0.90	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.16	1		0.16	0.16	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
99113	Jams and preserves, forest fruit	Flavan-3-ols	(-)-Epicatechin	1.57	1		1.57	1.57	C	15

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			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.07	1		0.07	0.07	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
99368	Jams and preserves, grape	Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.01	2		0.01	0.01	C	85
99387	Jams and preserves, guava	Anthocyanidins	Cyanidin	0.20	2		0.20	0.20	C	85
			Delphinidin	0.02	2		0.02	0.02	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85
		Flavones	Apigenin	0.01	2		0.01	0.01	C	85
			Luteolin	0.02	2		0.02	0.02	C	85
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	85
			Myricetin	0.03	2		0.03	0.03	C	85
			Quercetin	0.01	2		0.01	0.01	C	85
		99027	Jams and preserves, peach	Flavonols	Kaempferol	0.26	6	0.11	0.05	0.77
Quercetin	0.32				6	0.08	0.12	0.59	C	265
99031	Jams and preserves, plum	Flavonols	Quercetin	0.63	3	0.22	0.18	0.85	C	265
99403	Jams and preserves, raspberry	Flavonols	Kaempferol	0.51	1		0.51	0.51	C	306
			Quercetin	4.30	1		4.30	4.30	C	306
99038	Jams and preserves, sour orange	Flavanones	eriodictyol	3.03	3	0.43	2.48	3.87	C	265
			Hesperetin	4.02	3	0.45	3.17	4.70	C	265
			Naringenin	4.56	3	0.49	3.72	5.43	C	265
99064	Jams and preserves, strawberry	Anthocyanidins	Pelargonidin	0.31	15	0.01	0.00	1.10	B	209
		Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	B	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	B	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(+)-Catechin	0.90	1		0.90	0.90	B	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	B	15
		Flavonols	Kaempferol	0.65	21	0.08	0.00	1.07	B	107, 209, 265
Quercetin	0.54		21	0.07	0.14	1.20	B	107, 209, 265		
99406	Jellies, grape	Anthocyanidins	Cyanidin	0.20	2		0.20	0.20	C	85
			Delphinidin	0.02	2		0.02	0.02	C	85
			Pelargonidin	0.02	2		0.02	0.02	C	85

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20 – Cereal Grains and Pasta										
20004	Barley, hulled ( <i>Hordeum vulgare</i> L.)	Flavan-3-ols	(+)-Catechin	2.39	16	0.17	1.40	4.10	B	118
20008	Buckwheat ( <i>Fagopyrum esculentum</i> Moench)	Flavonols	Quercetin	15.38	24	1.61	5.10	36.29	C	147, 199
20011	Buckwheat flour, whole-groat	Flavan-3-ols	(-)-Epicatechin	3.02	1		3.02	3.02	C	223
			(-)-Epicatechin 3-gallate	0.78	1		0.78	0.78	C	223
		Flavonols	Quercetin	3.47	17	0.55	1.16	8.40	B	147, 148, 223, 258
20009	Buckwheat groats, roasted, dry	Flavones	Apigenin	0.28	5	0.09	0.16	0.65	C	62
		Flavonols	Quercetin	7.09	14	0.81	2.14	11.49	B	62, 147, 258
99086	Buckwheat, bran	Flavonols	Quercetin	14.90	12		14.90	14.90	C	148
20100	Macaroni, cooked, enriched	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.00	1		0.00	0.00	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
20045	Rice, white, long-grain, regular, cooked	Flavan-3-ols	(-)-Epicatechin	0.00	1		0.00	0.00	C	15
			(-)-Epicatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin	0.00	1		0.00	0.00	C	15
			(-)-Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	15
			(+)-Catechin	0.00	1		0.00	0.00	C	15
			(+)-Gallocatechin	0.00	1		0.00	0.00	C	15
99461	Sorghum, grain, red	Flavanones	Eriodictyol	0.29	12	0.13	0.00	1.29	C	73
			Naringenin	1.67	12	0.40	0.00	4.84	C	73
		Flavones	Apigenin	2.54	12	1.68	0.00	20.37	C	73
			Luteolin	3.93	12	1.54	0.00	18.22	C	73
99460	Sorghum, grain, white	Flavanones	Eriodictyol	0.00	1		0.00	0.00	D	73
			Naringenin	0.00	1		0.00	0.00	D	73
		Flavones	Apigenin	2.54	1		2.54	2.54	D	73
			Luteolin	0.45	1		0.45	0.45	D	73
99394	Wheat, purple	Anthocyanidins	Cyanidin	11.07	2	0.07	11.00	11.15	C	121
			Delphinidin	3.20	2	0.04	3.16	3.24	C	121
			Malvidin	4.02	2	1.00	3.02	5.02	C	121
			Pelargonidin	3.41	2	0.03	3.38	3.44	C	121
			Peonidin	1.81	2	0.01	1.81	1.82	C	121
			Petunidin	2.34	2	0.01	2.33	2.35	C	121

## Reference List

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- 1. Achilli, G., Cellerino, G. P., and Gamache, P. H.**  
Identification and determination of phenolic constituents in natural beverages and plant extracts by means of a coulometric electrode array system.  
*J. Chromatogr.*, 1993, 632(1/2), 111-117.  
Wines-white & red, Beer, Fruit juice-lemon.  
Catechin, Hesperetin, Hesperidin, Kaempferol, Myricetin, Naringenin, Naringin, Quercetin, Quercitrin, Rutin, Gallic acid, Vanillic acid, Hydroxycinnamic acids.
- 2. Adhikari, D. P., Francis, J. A., Schutzki, R. E., Chandra A., and Nair, M.**  
Quantification and characterization of cyclooxygenase and lipid peroxidation inhibitory anthocyanins in fruits of Amelanchier.  
*Phytochem. Anal.*, 2005, 16, 175-180.  
Saskatoon Service berry.  
Cyanidin.
- 3. Aligourchi, H., Barzegar, M., and Abbasi, S.**  
Anthocyanin characterization of 15 Iranian pomegranate (*Punica granatum*) varieties and their variation after cold storage and pasteurization.  
*Eur Food Res Technol*, 2008, 227, 881-887.  
Pomegranates (15 varieties).  
Cyanidin, Delphinidin, Pelargonidin.
- 4. Amiot, M. J., Tacchini, M., Aubert, S. Y., and Oleszek, W.**  
Influence of cultivar, maturity stage and storage conditions on phenolic composition and browning of pear fruits.  
*J. Agric. Food Chem.*, 1995, 43, 1132-1137.  
Pears - 7 cultivars.  
Catechin, Epicatechin, Hydroxycinnamic acid, Total flavanols, Total flavonols.
- 5. Ancos, B. de, Gonzalez, E., and Cano, M. P.**  
Differentiation of raspberry varieties according to anthocyanin composition.  
*Z. Lebensm Unters Forsch A*, 1999, 208, 33-38.  
Raspberries (cultivars - Autumn Bliss, Heritage, Ceva, Rubi)  
Cyanidin, Pelargonidin, Malvidin.
- 6. Andlauer, W., Stumpf, C., and Fürst, P.**  
Influence of the acetification process on phenolic compounds.  
*J. Agric. Food Chem.*, 2000, 48, 3533-3536.  
Cider, Cider vinegar, White wine, White wine vinegar, Red wine, Red wine vinegar.  
Catechin, Epicatechin, Anthocyanins (as malvidin-3-glucosides), Phenolic acids, Total phenols.

7. **Andlauer, W., Stumpf, C., Hubert, M., Rings, A., and Furst, P.**  
 Influence of cooking process on phenolic marker compounds of vegetables.  
*Int. J. Vitam. Nutr. Res.*, 2003, 73(2), 152-159.  
 Zucchini - raw & cooked, Princess beans - raw & cooked, Carrots-raw & cooked,  
 Potatoes-raw & cooked.  
 \*Rutin, Quercitrin, Chlorogenic acid, Caffeic acid.
  
8. **Andres-Laceuva, C., Monogas, M., Khan, N., Izquierdo-Pulido, M., Urpi-Sarda, M., Permanyer, J., and Lamuela-Raventos, R. M.** Flavanol and flavonol contents of cocoa powder products: Influence of the manufacturing process.  
*J. Agric. Food Chem.*, 2008, 56, 3111-3117.  
 Cocoa powder.  
 Catechin, Epicatechin, Quercetin.
  
9. **Antonen, M. J. and Karjalainen, R. O.**  
 High-performance liquid chromatography analysis of black currant (*Ribes nigrum* L.) fruit phenolics grown either conventionally or organically.  
*J. Agric. Food chem.*, 2006, 54, 7530-7538.  
 Black currant.  
 Isorhamnetin, Kaempferol, Myricetin, Quercetin, Hydroxycinnamic acid derivatives.
  
10. **Antonen, M. J. and Karjalainen, R. O.**  
 Environmental and genetic variation of phenolic compounds in red raspberry.  
*J. Food Comp. Anal.*, 2005, 18, 759-769.  
 Red Raspberry.  
 Quercetin, Total phenolics, Total anthocyanins, Ellagic acid.
  
11. **Arabbi, P. R., Genovese, M. I., and Lajolo, F. M.**  
 Flavonoids in vegetable foods commonly consumed in Brazil and estimated ingestion by the Brazilian population.  
*J. Agric. Food Chem.*, 2004, 52(5), 1124-1131.  
 Lettuce (smooth, rough, red), Peppers (red, yellow, green), Onion (white, red), Chicory, Arugula, Tomato (salad var., Caqui, Cherry), Orange (Lima, Pera), Apples (Gala, Fuji, Golden Delicious).  
 Quercetin, kaempferol, Luteolin, Apigenin, Cyanidin, Chalconaringenin, Sinensetin, Naringenin, Hesperetin, Catechin, Epicatechin, Phloridzin.
  
12. **Arai, Yusuke, Watanabe, S., Kimira, M., Shimoi, K., Mochizuki, R., and Kinae, N.**  
 Dietary intakes of flavonols and isoflavones by Japanese women and inverse correlation between quercetin intake and plasma LDL cholesterol concentration.  
*J. Nutr.*, 2000, 130, 2243-2250.

Snap beans, Green soybeans, Bean sprouts, Tofu (Momen type), Potato, Tomato, Green bell pepper, Eggplant, Carrot, Parsley, Japanese raddish, Cabbage, Broccoli, Molokheka (Nalta juice), Spinach, Lettuce, Onion, Lotus root, Cucumber, Kiwi fruit, Watermelon, Orange, Peach, Apple, Persimmon, Grape, Strawberry, Green tea.  
Kaempferol, Luteolin, Myricetin, Quercetin.

- 13. Areias, F. M., Valentão, P., Andrade, P. B., Ferreres, F., and Seabra, R. M.**  
Phenolic fingerprint of peppermint leaves.  
*Food Chem.*, 2001, 73, 307-311.  
Peppermint leaves.  
Eriodictoyl, Luteolin, Apigenin, Rosmarinic acid, Pebrellin, Gardenin B, 5,6-OH-7,8,3'4'-OMe-flavone.
- 14. Artajo, L.S., Romero, M. P., and Motilva, M. J.**  
Transfer of phenolic compounds during olive oil extraction in relation to ripening stage of the fruit.  
*J. Sci. Food Agric.*, 2006, 86, 518-527.  
Olive oil, olive paste, olive pomace.  
Apigenin, Luteolin, Other polyphenols.
- 15. Arts, I. C. W., van de Putte, B., and Hollman, P. C. H.**  
Catechin content of foods commonly consumed in the Netherlands. 1. Fruits, vegetables, staple foods and processed foods.  
*J. Agric. Food Chem.*, 2000, 48, 1746-1751.  
Apple with skin, Apple without skin, Applesauce, Apricot, Avocado, Blackberry, Blueberry, Broad beans (raw, prepared, canned), Cherry, sweet (raw, canned), Cranberry, Currant (black, white, red), Gooseberry, Grape (black, white), Kidney-bean (canned), Kiwi fruit, Mango, Marrowfat peas( canned), Nectarine, Peach (raw, canned), Pear with skin, Pear without skin, Plum, Raspberry, Rhubarb (raw, prepared), Strawberry, Chocolate (black), Chocolate milk, Chocolate candy bar, Currant jam, Apricot jam, Cherry jam, Forest fruit jam, Strawberry jam, Raisins.  
Catechin, Epicatechin, Catechins, Total.
- 16. Arts, I. C. W., van de Putte, B., and Hollman, P. C. H.**  
Catechin content of foods commonly consumed in the Netherlands. 2. Tea, wine, fruit juices, and chocolate milk.  
*J. Agric. Food Chem.*, 2000, 48, 1752-1757.  
Black tea infusions, Red wines, White wines, Apple juice, Black grape juice, White grape juice, Iced tea, Lager beer (Heineken), Chocolate milk (semiskimmed), Coffee.  
Catechin, Epicatechin, Catechins, Total.
- 17. Ayerza, R. and Coates, W. (A0918)**  
Some quality components of four chia (*Salvia hispanica* L.) genotypes under tropical coastal desert ecosystem conditions.



- Asian J. Plant Sci.*, 2009, 8, 301-307.  
Chia genotypes.  
Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, Total phenols.
- 18. Bahroun, T., Luximon-Ramma, A., Crozier, A., and Arouma, O.**  
Total phenol, flavonoid, proanthocyanidin and vitamin C levels and antioxidant activities of Mauritian vegetables.  
*J. Sci. Food Agric.*, 2004, 84, 1553-1561.  
Chinese cabbage, onion, Mugwort, Broccoli, Chilli pepper, Lettuce, White cabbage, Cauliflower, Tomato, Carrot.  
Quercetin, Kaempferol, Apigenin, Luteolin, Total Phenols, Total flavonoids, vitamin C, TEAC, FRAP.
- 19. Baron, R., Mayen, M., Merida, J., and Medina, M.**  
Changes in phenolic compounds and browning during biological aging of sherry-type wine.  
*J. Agric. Food Chem.*, 1997, 45(5), 1682-1685.  
Dry pale sherry white wine (in 5 different stages of aging).  
Catechin, Epicatechin, Procyanidins B1-B4, Phenolic acids (Gallic, Protocatechuic, Vanillic, Syringic, Caffeic, *p*-Coumaric, Ferulic, Tyrosol, *trans*-Cafftaric, *cis*-Coutaric, *trans*-Coutaric, Fefataric).
- 20. Belajová, E. and Suhaj, M.**  
Determination of phenolic constituents in *citrus* juices: Method of high performance liquid chromatography.  
*Food Chemistry*, 2004, 86, 339-343.  
Orange juice (fresh squeezed, commercial), Grapefruit juice (fresh squeezed, commercial), Lemon juice (fresh squeezed).  
Naringin, Hesperidin, Neohesperidin, Quercetin.
- 21. Berhow, M. A.**  
Effects of early growth regulator treatment on flavonoid levels in grapefruit.  
*Plant Growth Regulation*, 2000, 30, 225-232.  
Grapefruit.  
Naringenin.
- 22. Berhow, M., Tisserat, B., Kanes, K., and Vandercook, C.**  
Survey of phenolic compounds produced in citrus.  
*Technical Bulletin Number 1856, ARS, USDA, December 1998.*
- 23. Bete<sup>□</sup>s-Saura, C., Andre<sup>□</sup>s-Lacueva, C., and Lamuela-Ravento<sup>□</sup>s, R. M.**  
Phenolics in white free run juices and wines from Penede<sup>□</sup>s by high performance liquid chromatography: Changes during vinification.  
*J. Agric. Food Chem.*, 1996, 44, 3040-3046.  
White free run grape juice, Wine.  
Catechin, Epicatechin, Quercetin, Phenolics, Hydrocinnamics, Benzoic acids.

- 24. Bermudez-Soto, M. J., and Tomás-Barberan, F. A.**  
Evaluation of commercial red fruit juice concentrates as ingredients for antioxidant functional juices.  
*Eur. Food Res Technol.*, 2004, 219, 133-141.  
Juice concentrates of Chokeberry, Elderberry, Blackcurrant, Strawberry, red Grape, Redcurrant, Cherry, Plum, Raspberry.  
Cyanidin, Delphinidin, Neochlorogenic acid, Quercetin, Myricetin, Hydroxycinnamic acid derivatives, Flavan-3-ols, Ellagic acid derivatives, total Phenolics., ABTS, DDPH.
- 25. Bilyk, A., and Sapers, G. M.**  
Varietal differences in the quercetin, kaempferol, and myricetin contents of highbush blueberry, cranberry, and thornless blackberry fruits.  
*J. Agric. Food Chem.*, 1986, 34, 585-588.  
Highbush blueberry (Earliblue, Weymouth, Coville, Bluetta), Cranberry (Stevens, Early black, Ben Lear, Franklin, McFarlin, Howes), Thornless Blackberry (Smoothstem, Black Satin, Dirksen Thornless, Hull Thornless, Thornfre).  
Quercetin, Kaempferol.
- 26. Bilyk, A., and Sapers, G. M.**  
Distribution of quercetin and kaempferol in lettuce, kale, chive, garlic chive, leek, horseradish, red radish, and red cabbage tissues.  
*J. Agric. Food Chem.*, 1985, 33, 226-228.  
Lettuce (Augusta, Buttercrunch, Minneto, Summer Bibb, Tom Tumb, Barcarolle, Burpee Bibb, Fordhook, Paris White), Chive, Garlic chive, Leek, Kale (Dwarf Siberian, Vates BlueCurled Dwar), Red cabbage, Horse radish, Red radish.  
Quercetin, Kaempferol.
- 27. Bilyk, A., Cooper, P. L., and Sapers, G. M.**  
Varietal differences in distribution of quercetin and kaempferol in onion (*Allium cepa* L.) Tissue.  
*J. Agric. Food Chem.*, 1984, 32, 274-276.  
Onions (Carmen hybrid, Sweet Spanish Utah, Early Yellow Globe, Yellow Globe Hybrid, Sweet Spanish Hybrid, Red Hamburger, Walla Walla, Evergreen Long White Bunching).  
Quercetin, Kaempferol.
- 28. Blekas, G., Vassilakis, C., Harizanis, C., Tsimidou, M., and Boskou, D. G.**  
Biophenols in table olives.  
*J. Agric. Food Chem.*, 2002, 50, 3688-3692.  
Tablee olives: green, black, kalamata.  
Luteolin, Hydroxytyrosol, Total phenolics.

- 29. Brenes, M., Garcia, A., Garcia, P., and Garrido, A.**  
 Rapid and complete extraction of phenols from olive oil and determination by means of a coulometric electrode array system.  
*J. Agric. Food Chem.*, 2000, 48, 5178-5183.  
 Olive oil.  
 Apigenin, Luteolin, Other phenolic compounds.
- 30. Bolling, B. W., Dolinkowski, G., Blumberg, J. B., and Chen, C.-Y.**  
 Polyphenol content and antioxidant activity of California almonds depend on cultivar and harvest year.  
*Food Chemistry*, 2010, 122, 819-825.  
 California almonds – 7 varieties.  
 Catechin, Epicatechin, Isothamnetin, Kaempferol, Narinenin.
- 31. Bonvehi, J. S. and Coll, F.**  
 Evaluation of bitterness and astringency of polyphenolic compounds in cocoa powder.  
*Food Chemistry*, 1997, 60(3), 365-370.  
 Cocoa powder.  
 Epicatechin.
- 32. Bonvehí, J. S., Torrentó, M. S., and Lorente, E. C.**  
 Evaluation of polyphenolic and flavonoid compounds in honeybee-collected pollen produced in Spain.  
*J. Agric. Food Chem.*, 2001, 49, 1848-1853.  
 Honeybee-collected pollen.  
 Quercetin, Myricetin, Kaempferol, Isorhamnetin, 3,4-dihydroxybenzoic acid, Vanillic acid, Syringic acid, *p*-Coumaric acid, *o*-Coumaric acid.
- 33. Breitfellner, F., Solar, S., and Sontag, G.**  
 Radiation induced chemical changes of phenolic compounds in strawberries.  
*Radiat. Phys. Chem.*, 2003, 67, 497-499.  
 Strawberries (whole, full red).  
 (+)-Catechin, (-)-Epicatechin, Quercetin-3-glucoside, Kaempferol-3-glucoside.
- 34. Bronner, W. E., and Beecher, G. R.**  
 Method of determining the content of catechins in tea infusions by high-performance liquid chromatography.  
*J. Chromatogr. A*, 1998, 805, 137-142.  
 Black tea, Green tea, Jasmine tea.  
 Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate.
- 35. Bronner, W. E., and Beecher, G. R.**  
 Extraction and measurement of prominent flavonoids in orange and grapefruit juice concentrates.

- J. Chromatogr. A*, 1995, 705, 247-256.  
Orange juice concentrate, Grapefruit concentrate.  
Hesperidin, Naringin, Narirutin.
- 36. Buendía, B., Gil, M. I., Tudela, J. A., Gady, A. L., Medina, J. J., Soria, C., López, J. M., and Tomas-Barberán, F. A.**  
HPLC-MS analysis of proanthocyanidin oligomers and other phenolics in 15 strawberry cultivars.  
*J. Agric. Food Chem.*, 2010, 58, 3916-3926.  
Straw berries (15 cultivars).  
Cyanidin, Pelargonidin, Total anthocyanins, Individual and total ellagitannins, Individual and total ellagic acid conjugates, Kaempferol, Quercetin, Individual and total phenolic acids, Proanthocyanidins.
- 37. Burda, S., Oleszek, W., and Lee, C. Y.**  
Phenolic compounds and their changes in apples during maturation and cold storage.  
*J. Agric. Food Chem.*, 1990, 38, 945-948.  
Apples (Golden Delicious, Empire, Rhode Island Greening).  
Epicatechin, Quercetin glucosides, Procyanidin B2, Chlorogenic acid.
- 38. Careri, M., Elviri, L. Mangia, A., and Musci, M.**  
Spectrophotometric and coulometric detection in the high-performance liquid chromatography of flavonoids and optimization of sample treatment for the determination of quercetin in orange juice.  
*J. Chromatogr. A*, 2000, 881, 449-460.  
Orange juice.  
Ericitrin, Narirutin, Naringin, Hesperidin, Quercetin.
- 39. Carmona, M., Sánchez, A. M., Ferreres, F., Zalacain, A., Tomas-Barberán, F. A., and Alonso, G. L.**  
Identification of the flavonoid fraction in saffron spice by LC/DAD/MS/MS: Comparative study of samples from different geographical origins.  
*Food Chemistry*, 2007, 100, 445-450.  
Saffron.  
Kaempferol derivatives.
- 40. Chamkha, M., Cathala, B., Cheynier, V., and Douillard, R.**  
Phenolic composition of champagnes from chardonnay and pinot noir vintages.  
*J. Agric. Food Chem.*, 2003, 51, 3179-3184.  
Champagnes (Chardonay and Pinot noir).  
Catechin, Epicatechin, Quercetin, Gallic acid, Protocatechuic acid, Caffeic acid, Coumaric acid, Caffeoyl, Vanillin, p-Coumaric acid, Ferulic acid, trans-resveratrol, Total hydroxycinnamics, Total flavonoids, Total benzoic acids, Other phenolics, Tyrosol.

41. **Chang, Q., and Wong, Y-S.**  
Identification of flavonoids in Hakmeitau beans (*Vigna sinensis*) by high-performance liquid chromatography-electron-spray mass spectrometry (LC-ESI/MS).  
*J. Agric. Food Chem.*, 2004, 52, 6694-6699.  
Hakmeitau (black seed cultivar of cow pea).  
Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Quercetin, Kaempferol, Myricetin.
42. **Chaovanalikit, A., and Wrolstad, R. E.**  
Anthocyanin and polyphenolic composition of fresh and processed cherries.  
*J. Food Sci.*, 2004, 69(1), 73-83.  
Sweet Cherries (Bing-frsh, frozen, canned; Royal Ann, Rainier), Sour Cherries (Montmorency).  
Cyanidin, Pelargonodin, Peonidin, Petunidin.
43. **Charron, C. S., Clevidence, B. A., Britz, S. J., and Novotny, J. A.**  
Effect of dose size on bioavailability of acylated and nonacylated anthocyanins from red cabbage (*Brassica oleracea* L. var. Capitata).  
*J. Agric. Food Chem.*, 2007, 55, 5354-5362.  
Red cabbage.  
Cyanidin.
44. **Chen, H., Zuo, Y., and Deng, Y.**  
Separation and determination of flavonoids and other phenolic compounds in cranberry juice by high-performance liquid chromatography.  
*J. Chromatogr. A*, 2001, 913, 387-395.  
Cranberry juice.  
Catechin, Myricetin, Quercetin, Chlorogenic acid, *p*-Coumaric acid, Benzoic acid., *p*-Anisic acid.
45. **Cho, M. J., Howard, L. R., Prior, R. L., and Clark, J. R.**  
Flavonol glycosides and antioxidant capacity of various blackberry and blueberry genotypes determined by high-performance liquid chromatography/mass spectrometry.  
*J. Sci. Food Agric.*, 2005, 85, 2149-2158.  
Blackberriea, blueberries.  
Myricetin, Quercetin, Total flavonols, Total phenolics, ORAC, PCL (photochemiluminescence assay).
46. **Chu, Y-H., Chang, C-L., and Hsu, H-F.**  
Flavonoid content of several vegetables and their antioxidant activity.  
*J. Sci. Food Agric.*, 2000, 80, 561-566.

- Perilla, sponge gourd, Water spinach, Sweet potato leaves (green), Sweet potato leaves (purple), Leaf lettuce, Chinese kale, Red malabar nightshade, Cucumber, Purple cabbage, Crown daisy, Spinach, Chinese cabbage, White cabbage, Gynura, Onion (interior), Onion (outer leaves), Potato.  
Quercetin, Kaempferol, Myricetin, Apigenin, Luteolin.
- 47. Chun, O. K., Smith, N., Sakagawa, A., and Lee, C. Y.**  
Antioxidant properties of raw and processed cabbages.  
*Int. J. Food Sci. Nutr.*, 2004, 55, 191-199.  
Cabbage – Green, Napa, Red, Savoy, Saurkraut (bagged, canned, glass jar), pickled red.  
Cyanidin, Kaempferol, Myricetin, Quercetin, Apigenin, Luteolin, Ascorbic acid, Total phenolics, Total flavonoids, VCEAC (vitamin C equivalent antioxidant capacity).
- 48. Chun, O. K., Kim, D-O., Moon, H. Y., Kang, H. G., and Lee, C. Y.**  
Contribution of individual polyphenolics to total antioxidant capacity of plums.  
*J. Agric. Food Chem.*, 2003, 51, 7240-7245.  
Plums (Beltsville Elite, Cacaks Best, Castlton, Early Magic, Empress, Longjhon, Mirabellier, Ny101, N6, N9, Stanley).  
Caffeoylquinic acid, Cyanidin, Peonidin, Quercetin.
- 49. Cortacero-RamPrez, S., Segura-Carretero, A., Cruces-Blanco, C., Romer-Romero, M. L., and Fernandez-Gutiérrez, A.**  
Simultaneous determination of multiple constituents in real beer samples of different origins by capillary zone electrophoresis.  
*Anal. Bioanal. Chem.*, 2004, 380, 831-837.  
Beers.  
Rutin, Epicatechin, Catechin.
- 50. Crozier, A., Jensen, E., Lean, M. E. J., and McDonald, M. S.**  
Quantitative analysis of flavonoids by reversed-phase high-performance liquid chromatography.  
*J. Chromatogr. A*, 1997, 761, 315-321.  
Onion, Celery.  
Quercetin, Luteolin, Apigenin.
- 51. Crozier, A., Lean, M. E. J., McDonald, M. S., and Black, C.**  
Quantitative analysis of the flavonoid content of commercial tomatoes, onions, lettuce, and celery.  
*J. Agric. Food Chem.*, 1997, 45, 590-595.  
Tomatoes (Spanish varieties, Scottish, Dutch beef, Spanish cherry, English cherry), Onions (red, white), Lettuce (Round, Green salad, Lollo Biondo), Celery (green and white), Tomatoes (Scottish) - cooked, Onions (White) - cooked.  
Quercetin, Luteolin, Apigenin.

52. **Dani, C., Vanderlinde, O. R., Bonatto, D., Salvador, M., and Henriques, J. A. P.**  
Phenolic content and antioxidant activities of white and purple juices manufactures with organically – or conventionally-produced grapes.  
*Food Chem. Toxicol.*, 2007, 45, 2574-2580.  
Grapes (Bordo, Niagara) juices.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Catechin, Epicatechin, Procyanidins.
53. **da Silva, F. L., Escribano-Bailón, M. T., Pérez-Alonso, J. J., Ricas-Gonzalo, J. C., and Santos-Buelga, C.**  
Anthocyanin pigments in strawberry.  
*LWT*, 2007, 40, 374-382.  
Strawberry.  
Cyanidin, Pelargonidin.
54. **de Brito, E. S., de Araújo, M. C. P., Alves, R. E., Carkeet, C., Clevidence, B. A., and Novotny, J. A.**  
Anthocyanins present in selected tropical fruits: Acerola, Jambolão, Jussara, and Guajiru.  
*J. Agric. Food Chem.*, 2007, 55, 9389-9394.  
Acerola, Jambolão, Jussara, Guajiru.  
Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin, Total anthocyanins.
55. **de Brito, E. S., de Araújo, M. C. P., Lin, L-Z., and Harnly, J.**  
Determination of the flavonoid component of cashew apple (*Anacardium occidentale*) by LC-DAD-ESI/MS.  
*Food Chemistry*, 2007, 105, 1112-1118.  
Cashew apple.  
Kaempferol, Myricetin, Quercetin.
56. **de Freitas, V.A.P., Glories, Y., and Monique, A.**  
Developmental changes of procyanidins in grapes of red *Vitis vinifera* varieties and their composition in respective wines.  
*Am. J. Enol. Vitic.*, 2000, 51(4), 397-403.  
Wine-Merlot and Cabernet Sauvignon.  
(+)-Catechin, (-)-Epicatechin, (-)-Epicatechin gallate, Procyanidins dimers: B1-B8, Trimer C1, Total dimers + C1, Total dimers + catechins.
57. **De la Torre-Carbot, K., Jauregui, O., Gimeno, E., Castellote, A. J., Lamuela-Raventós, R. M., and López-Sabater, M. C.**  
Charaterization and quantification of phenolic compounds in olive oil by solid-phase extraction, HPLC\_DAD, and HPLC-MS/MS.  
*J. Agric. Food Chem.*, 2005, 53, 4331-4340.  
Olive oils.  
Apigenin, Luteolin, Other phenolic compounds.

- 58. de Pascual-Teresa, S., Santos-Buelga, C., & Rivas-Gonzalo, J.C.**  
 Quantitative analysis of flavan-3-ols in Spanish foodstuffs and beverages.  
*J. Agric. Food Chem.*, 2000, 48, 5331-5337.  
 Apple (Golden), Apple (Granny Smith), Apple Renette, Apple (Red Delicious),  
 Apricot, Avocado, Banana, Blackberry, Blueberry, Cherry, Chestnut, Custard  
 apple, Early fig, Grape (red), Grape (white), Kiwi, Medlar, Peach, Pear  
 (Blanquilla), Pear (Conferencia), Persimmon, Pineapple, Plum, Pomegranate,  
 Quince, Raspberry, Redcurrent, Strawberry, Strawberry tree fruit, Aubergine,  
 Broad bean, Carrot, Courgette, Lettuce, Onion, Pea, Pepper (red), Pepper  
 (green), Tomato, Chickpea, French bean, Lentil, Pinto bean, White bean, Cider,  
 Coffee, Soluble cacao, Tea (black), Tea (green), Wine (red), Wine (rose), Wine  
 (white), Beer, Bee pollen, Chocolate, Wheat flour.  
 Gallocatechin, Catechin, Epigallocatechin, Epicatechin, Epigallocatechin gallate,  
 Epicatechin-3O-gallate, Procyanidins B1-B5, B7, C1.
- 59. del Caro, A., Piga, A., Vacca, V., and Agabbio, M.**  
 Changes of flavonoids, vitamin C, and antioxidant capacity in minimally  
 processed citrus segments and juices during storage.  
*Food Chemistry*, 2004, 84, 99-105.  
 Oranges (Shamouti and Salustiana– segments and juice), Mandarin (Palazelli -  
 segments), Red blush grapefruit juice, Minneola tangelo.  
 Narirutin, Naringin, Hesperidin, Didymin. Neohesperidin, Poncirin, vitamin C.
- 60. del Mar Verde Mñndez, C., Foster, M.P., Rodríguez-Delgado, M.Á.,  
 Rodríguez-Rodríguez, E.M., and Romero, C.D.**  
 Content of free phenolic compounds in bananas from Tenerife (Canary Islands)  
 and Ecuador.  
*Eur. Food Res. Technol*, 2003, 21, 287-290.  
 Bananas. (greenhouse, organic, outdoor).  
 Catechin, Gallic acid.
- 61. Dhuique-Mayer, C., Caris-Veyrat, C., Ollitrault, P., Curk, F., and Amiot, M-J.**  
 Varietal and interspecific influence on micronutrient contents in citrus from the  
 Mediterranean area.  
*J. Agric. Food Chem.*, 2005, 53, 2140-2145.  
 Oranges – Salustiana, Hamlin, Maltese, Shamouti, Sanguinelli, Valencia, Pera,  
 Cara-cara, Mandarin, Clementine.  
 Hesperetin, Naringenin, carotenoids.
- 62. Dietrych-Szostak, D., and Oleszek, W.**  
 Effect of processing on the flavonoid content in buckwheat (*Fagopyrum*  
*esculentum* Möench) grain.  
*J. Agric. Food Chem.*, 1999, 47, 4384-4387.  
 Buckwheat.  
 Rutin, Apigenin.



- 63. Dinelli, G., Bonetti, A., Minelli, M., Marotti, I., Catizone, P., and Mazzanti, A.**  
Content of flavavonols in Italian bean (*Phaseolus vulgaris* L.) ecotypes.  
*Food Chemistry, 2006, 99, 105-114.*  
Italian bean ecotypes –Sarconi, Lamon, Zolfino del Pratomagno.  
Kaempferol and conjugates.
- 64. Ding, Z., Kuhr, S., and Engelhardt, U. H.**  
Influence of catechins and theaflavins on the astrigent taste of black tea brews.  
*Z Lebensm Unters Forsch, 1992, 195, 108-111.*  
Black tea.  
Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Caffeine.
- 65. Dougherty, M. H., and Fisher, J. F.**  
Quality of commercial, canned, single-strength grapefruit juice produced in florida during the 1975-76 and 1976-77 citrus season.  
*Proc. Fla. State Hort. Soc., 1977, 90, 168-170.*  
Grapefruit juice, canned, single strength.  
Naringin, Limonin.
- 66. Dragovic-Uzelac, V., Delonga, K., Levaj, B., Djakovic. S., and Pospisil, J.**  
Phenolic profiles of raw apricots, pumpkins, and their purees in the evaluation of apricot nectar and jam authenticity.  
*J. Agric. Food Chem., 2005, 53, 4836-4842.*  
Apricot, Apricot jam, Pumpkin.  
Catechin, Epicatechin, Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, p-Coumaric acid, Syringic acid, Ferulic acid.
- 67. Dragovic-Uzelac, V., Pospisil, J., Levaj, B., and Delonga, K.**  
The study of phenolic profiles of raw apricots and apples and their purees by HPLC for the evaluation of apricot nectars and jams authenticity.  
*Food Chemistry, 2005, 91, 373-383.*  
Apricots, Apples and their purees.  
Catechin, Epicatechin, Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, p-Coumaric acid, Ferulic acid, Phloretin.
- 68. Dragovic-Uzelac, V., Levaj, B., Mrkic, V., Bursac, D., Boras, M.**  
The content of polyphenols and carotenoids in three apricot cultivars depending on stage of maturity and geographical region.  
*Food Chemistry, 2007, 102, 966-975.*  
Apricots (cv.s Keckemetska ruza, Madjarska najbolja, Velika rana).  
Catechin, Epicatechin, Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, p-Coumaric acid, Ferulic acid, Procyanidin B1, B2, B3, Carotenoids.

69. **Dueñas, M., Pérez-Alonso, J. J., Santos-Buelga, C., and Escribano-Bailón, T.**  
Anthocyanin composition in fig (*Ficus carica* L.).  
*J. Food Comp. Anal.*, 2008, 21, 107-115.  
Fig.  
Cyanidin, Pelargonidin, Peonidin.
70. **Dugo, P., Favoino, O., Presti, M.L., Luppino, R., Dogo, G., and Mondello, L.**  
Determination of anthocyanins and related components in red wines by micro- and capillary HPLC.  
*J. Sep. Sci.*, 2004, 27, 1458-1466.  
Red wine (Cabernet Sauvignon).  
Delphinidin, Cyanidin, Petunidin, Peonidin, Malvidin.
71. **Dugo, G., Saitta, M., Guifrída, F., Vilasi, F., and La Torre, G. L.**  
Determination of resveratrol and other phenolic compounds in experimental wines from grapes subjected to different pesticide treatments.  
*Ital. J. Food Sci.*, 2004, 16, 305-321.  
White wines (from Compañia and Sicily), Red wines (Tuscany).  
Rutin, Kaempferol, Myricetin, Quercetin, Isorhamnetin and Rhamnetin.
72. **DuPont, M.S., Mondin, Z., Williamson, G., & Price, K.R.**  
Effect of variety, processing, and storage on the flavonoid glycoside content and composition of lettuce and endive.  
*J. Agric. Food Chem.*, 2000, 48(9), 3957-3964.  
Lettuce (Varieties: iceberg, green batavia, cos remus, green salad bowl, green oak leaf, red oak leaf, lollo biondo, lollo rosso), Endive (Varieties: fine frisee, escarole, coarse frisee).  
Quercetin glucosides, Luteolin 7-O-glucuronide, Cyanidin glucosides, Kaempferol glucosides, Totals.
73. **Dykes, I., Seitz, L. M., Rooney, W. L., and Rooney, L. W.**  
Flavonoid composition of red sorghum genotypes.  
*Food Chemistry*, 2009, 116, 313-317.  
Red Sorghum.  
Apigenin, Luteolin, Apigeninidin, Luteolinidin, Eridictyol, Naringenin.
74. **Escribano-Bailón, M. T., Alcalde-Eon, C., Muñoz, O., Rivas-Gonzalo, J., and Santos-Buelga, C.**  
Anthocyanins in berries of maqui (*Aristotelia chilensis* (Mol.) Stuntz).  
*Phytochem. Anal.*, 2006, 17, 8-14.  
Maqui berries.  
Cyanidin, Delphinidin.
75. **Espinosa-Alonso, L. G., Lygin, A., Widholm, J.M., Valverde, M. E., and Paredes-Lopez, O.**  
Polyphenols in wild and weedy Mexican common beans (*Phaseolus vulgaris* L.).

- J. Agric. Food Chem.*, 2006, 54, 4436-4444.  
Jampas, Pinto  
Kaempferol, Quercetin, Daidzein, Coumestrol, Phenolic acids.
76. **Ewald, C., Fjelkner-Modig, S., Johansson, K., Sjöholm, I., and Åkesson, B.**  
Effect of processing on major flavonoids in processed onions, green beans, and peas.  
*Food Chem.*, 1999, 64, 231-235.  
Onion - raw, cooked, Green beans - raw, cooked, Peas - raw, cooked.  
Quercetin, Kaempferol.
- 77 **Fanasca, S., Roupael, Y., Venneria, E., Azzini, E., Duazzo, A., and Maiani, G.**  
Antioxidant properties of raw and cooked spears of green asparagus cultivars.  
*Int. J. Food Sci. Technol.*, 2009, 44, 1017-1023.  
Asparagus, green, raw, cooked.  
Quercetin, Ferulic acid, Total phenols, Carotenoids.
78. **Fan-Chiang H-J., and Wrolstad, R. E.**  
Anthocyanin pigment composition of blackberries.  
*Journal of Food Science*, 2005, 70 (3), C198-C202.  
Blackberries and blackberry juice.  
Cyanidin.
79. **Fang, F., Li, J-M., Zhang, P., Tang, K., Wang, W., Pan, Q-H., and Huang, W-D.**  
Effects of grape variety, harvest date, fermentation vessel and wine ageing on flavonoid concentration in red wines.  
*Food Res. Int.*, 2008, 41, 53-60.  
Wines – Chardonnay, Cabernet sauvignon, Cabernet Franc, Merlot, Marselan, Petit Verdot, Beimei, Beichun, Beihong.  
Galangin, Isorhamnetin, Kaempferol, Luteolin, Myricetin, Quercetin, Luteolin, Morin.
80. **Fang, F., Li, J-M., Pan, Q-H., and Huang, W-D.**  
Determination of red wine flavonoids by HPLC and effect of aging.  
*Food Chemistry*, 2007, 101, 428-433.  
Red wine.  
Galangin, Isorhamnetin, Kaempferol, Luteolin, Myricetin, Quercetin, Luteolin, Morin.
81. **Fang, Z., Zhang, M., and Wang, L.**  
HPLC-DAD-ESIMS analysis of phenolic compounds in bayberries (*Myrica rubra* Sieb. Et Zucc.)  
*Food Chemistry*, 2007, 100, 845-852.  
Bayberries.

Kaempferol, Myricetin, Quercetin, Gallic acid, Protocatechuic acid, Total phenolics.

- 82. Faudale, M., Viladomat, F., Bastida, J., Poli, F., and Codina, C.**  
Antioxidant activity and phenolic composition of wild, edible, and medicinal fennel from different Mediterranean countries.  
*J. Agric. Food Chem.*, 2008, 56, 1912-1920.  
Fennel.  
Eriodictyol, Quercetin, Caffeoylquinic acid.
- 83. Ferracane, R., Pelligrini, N., Visconti, A., Graziani, G., Chiavaro, E., Miglio, and Fogliano, V.**  
Effects of different cooking methods on antioxidant profile, antioxidant capacity, and physical characteristics of artichoke.  
*J. Agric. Food Chem.*, 2008, 56, 8601-8608.  
Artichokes – raw, boiled, steamed, fried.  
Apigenin, Caffeoylquinic acid, carotenoids, TEAC, FRAP, TRAP.
- 84. Ferreres, F., Gil, M. I., and Tomás-Barberán, F. A.**  
Anthocyanins and flavonoids from shredded red onion and changes during storage in perforated films.  
*Food Res. Int.*, 1996, 29, 389-395.  
Onion, red-shredded.  
Cyanidin glucosides, Quercetin glucosides.
- 85. Franke, A.A., Custer, L.J., Arakaki, C., and Murphy, S.P.**  
Vitamin C and flavonoid levels of fruits and vegetables consumed in Hawaii.  
*J. Food Comp. Anal.*, 2004, 17, 1-35.  
(Vegetables) Beans-cooked (Snap, Yardlong), Broccoli, Cabbage-raw & cooked (bok choy/green, pak choy, red, won bok), Choi sum, Eggplant-cooked (long), Lettuce, Onion (green, red, yellow, local 'Maui'), Peas-cooked from frozen (green), Potato leaves (Sweet), Potato (Sweet, Orange), Potato-cooked (Sweet, Purple), Spinach, Taro leaves-raw & cooked, Tomato (boiled, canned), Watercress; (Fruits) Apple-with and without skin (Fuji, Red Delicious), Blueberries-raw & frozen, Cranberry juice cocktail, Cranberry sauce (jellied), Cranberry (dried, sweetened), Grapefruit (Ruby Red, White), Grape jelly, Grape juice (unsweetened), Grapes-raw (red, seedless), Mango (Hayden, local), Oranges (Local Ka'u, Navel), Papaya, Pineapple, Plum (black, red), Pomelo, Raspberries-frozen, Strawberries-raw & frozen, Tangerines; (Dried Fruits) Prunes (dried, pitted), Raisins; (Juices & Jams) Grape jam, Grape juice, Guava jam.  
Myricetin, Quercetin, Kaempferol, Luteolin, Apigenin, Narirutin, Naringin, Hesperidin, Neohesperidin, Naringenin, Hesperetin, Delphinidin, Cyanidin, Pelargonidin.

- 86. Frankel, E. N., Waterhouse, A. I., and Teissedre, P. L.**  
Principal phenolic phytochemicals in selected California wines and their antioxidant activity in inhibiting oxidation of human low-density lipoproteins.  
*J. Agric. Food Chem.*, 1995, 43, 890-894.  
Red and White wines - California.  
Catechin, Epicatechin, Cyanidin, Malvinidin, Rutin, Quercetin, Myricetin. Gallic acid, Caffeic acid, Resveratrol.
- 87. Fuentes-Alventosa, J. M., Rodríguez, G., Cermeño, P., Jiménez, A., Guilén, R., Fernández-Bolaños, J., and Rodríguez-Arcos, R.**  
Identification of flavonoid diglycosides in several genotypes of asparagus from Huétor-Tájar population variety.  
*J. Agric. Food Chem.*, 2007, 55, 10028-10035.  
Asparagus – wild triguero.  
Isorhamnetin, Kaempferol, Quercetin.
- 88. Fuleki, T. and Ricardo da Silva, J.M.**  
Catechin and procyanidin composition of seeds from grape cultivars grown in Ontario.  
*J. Agric. Food Chem.*, 1997, 45, 1156-1160.  
Grapes red and white (vinifera, Hybrid, labrusca).  
Catechin, Epicatechin, Procyanidins (B1, B2, B3, B4, C1, T2).
- 89. Gamache, P., Ryan, E., and Acworth, I. N.**  
Analysis of phenolic and flavonoid compounds in juice beverages using high-performance liquid chromatography with coulometric array detection.  
*J. Chromatogr.*, 1993, 635, 143-150.  
Orange juice (Blend, Navel, Hamlin, Valencia)  
Hesperidin, Narirutin, Naringin, ascorbate, Cysteine, Methionine, Tryptophan, Tyrosine.
- 90. Gambelli, L., and Santorini, G.P.**  
Polyphenols content in some Italian red wines of different geographical origins.  
*J. Food Comp. Anal.*, 2004, 17, 613-618.  
Red wines: Puglia region (Montepulciano/Troia, Troia, Primitivo/Tarantino), Molise region (Montepulciano/Aglianico, aglianico), Cabernet sauvignon (Friuli, Chile, California).  
Malvidin, Peonidin, Petunidin, Cyanidin, Delphinidin, Quercetin, Apigenin, Myricetin, Resveratrol.
- 91. Gao, L., and Mazza, G.**  
Characterization, quantitation, and distribution of anthocyanins and colorless phenolics in sweet cherries.  
*J. Agric. Food Chem.*, 1995, 43, 343-346.  
Cherries - sweet, 7 cultivars.  
Cyanidin, Peonidin, Pelargonidin, Chlorogenic acid, p-Coumaric acid, p-Coumaroylquinic acid.

- 92. Gao, L., and Mazza, G.**  
 Quantitation and distribution of simple and acylated anthocyanins and other phenolics in blueberries.  
*J. Food Sci.*, 1994, 59, 1057-1059.  
 Blueberries -10 lowbush and 2 highbush varieties.  
 Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Chlorogenic acid.
- 93. García, A., Brenes, M., Romero, C., García, P. and Garrido, A.**  
 Study of phenolic compounds in virgin olive oil of the Picual variety.  
 Olive oil (Picual variety).  
 Luteolin,  $\alpha,\beta,\gamma$  tocopherols, Other phenolic compounds.
- 94. Garcia-Viguera, C., Zafrilla, P., and Tomas-Barberán, F.A.**  
 The use of acetone as an extraction solvent for anthocyanins from strawberry fruit.  
*Phytochem. Anal.*, 1998, 9, 274-277.  
 Strawberries (Camarosa – fresh, frozen; Chandler, Oso Grnade, and Tudla – frozen).  
 Cyanidin, Pelargonidin.
- 95. Gennaro, L., Leonardi, C., Esposito, F., Salucci, M., Maiani, G., Quaglia, G., and Fogliano, V.**  
 Flavonoid and carbohydrate contents in tropea red onions: Effects of homelike peeling and storage.  
*J. Agric. Food Chem.*, 2002, 50, 1904-1910.  
 Tropea red onion.  
 Delphinidin 3-glucosylglucoside, Cyanidin conjugates, Quercetin 4'-glucoside, Fructose, Glucose, Sucrose.
- 96. Ghiselli, A., Nardini, M., Baldi, A., and Scaccini, C.**  
 Antioxidant activity of different phenolic fractions separated from an Italian red wine.  
*J. Agric. Food Chem.*, 1998, 46(2), 361-367.  
 Italian red wine.  
 Catechin, Epicatechin, Free anthocyanins (Delphinidin, Cyanidin, Petunidin, & Malvidin glucosides), Flavonols (Quercetin, Myricetin, & Kaempferol glucosides), Procyanidins B1, B2, B3, B6, Hydroxycinnamoyltartaric acids, Phenolic acids.
- 97. Gil, M. I., Ferreres, F., Ortiz, A., Subra, E., and Tomas-Barberan, F. A.**  
 Plant phenolic metabolites and floral origin of Rosemary honey.  
*J. Agric. Food Chem.*, 1995, 43, 2833-2838.  
 Rosemary honey.  
 Quercetin, Kaempferol, Isorhamnetin, Luteolin, Apigenin.

- 98. Giuffrida, D., Salvo, F., Ziino, M., Toscano, G., and Dugo, G.**  
Initial investigation on some chemical constituents of capers (*Capparis Spinosa* L.) from the island of Salina.  
*Ital. J. Food Sci.*, 2002, 14(1), 25-33.  
Capers-raw & pickled.  
Rutin, Kaempferol-3-rutinoside, Kaempferol-3-glucoside, Quercetin, Kaempferol, Total phenolics, Fatty acids, proximates.
- 99. Gliszczyńska-Świgłó, A., Kałużewicz, A., Lemańska, K., Knaflewski, M., and Tyrakowska, B.**  
The effect of solar radiation on the flavonol content in broccoli inflorescence.  
*Food Chemistry*, 2007, 100, 241-245.  
Broccoli – Maraton, Lord, Fiesta.  
Kaempferol, Quercetin
- 100. Goldberg, D.M., Karumanchiri, A., Tsang, E., and Soleas, G.J.**  
Catechin and epicatechin concentrations of red wines: regional and cultivar-related differences.  
*Am. J. Enol. Vitic.*, 1998, 49(1), 23-34.  
Red wines (from Australia, Bordeaux, Burgundy, California, Beaujolais, Canada, Central Europe, Italy, Midi & Provence, Pacific Northwest, Iberian Peninsula, South Africa, Rhone Valley, & South America).  
Catechin, Epicatechin, Total catechins.
- 101. Goldberg, D.M., Tsang, E., Karumanchiri, A., Diamandis, E.P., Doleas, G., and Ng, E.**  
Method to assay the concentrations of phenolic constituents of biological interest in wines.  
*Anal. Chem.*, 1996, 68, 1688-1694.  
Red wines  
Catechin, Epicatechin, Trans-Resveratrol, Cis-resveratrol, rutin, quercetin, trans-Polydatin, Cis-Polydatin.
- 102. Gómez-Plaza, E., Gil-Muñoz, R., López-Roca, J. M., Martínez, A.**  
Color and phenolic compounds of a young red wine as discriminant variables of its status.  
*Food Res. Int.*, 1999, 32, 503-507.  
Red wines.  
Catechin, Epicatechin, Delphinidin, Petunidin, Peonidin, Malvidin, Caftaric acid, Coumaric acid, Procyanidins B2, B4, B5.
- 103. Gonçalves, B., Landbo, A-K., Knudsen, D., Silva, A. P., Moutinho-Pereira, J., Rosa, E., and Meyer, A.**  
Effect of ripeness and postharvest storage on the phenolic profiles of cherries (*Prunus avium* L.).

- J. Agric. Food Chem.*, 2004, 52 523-530.  
Cherries sweet – Burlat, Saco, Summit, Van.  
Cyanidin, Pelargonidin, Peonidin, Catechin, Epicatechin, Quercetin, Chlorogenic acid, p-Coumaroylquinic acid, Hydroxycinnamic acids, Total phenolics.
- 104. Grandi, R., Trifiro, A., Gherardi, S. Calza, M., and Sacconi G.**  
Characterization of lemon juice on the basis of flavonoid content.  
*Fruit Processing*, 1994, 11, 355-359.  
Lemon juice (fresh, commercial).  
Hesperidin, Eriocitrin.
- 105. Gu, L., House, S. E., Wu, X., Ou, B., and Prior, R.**  
Procyanidin and catechin contents and antioxidant capacity of cocoa and chocolate products.  
*J. Agric. Food Chem.*, 2006, 54, 4057-4061.  
Cocoa, Chocolate products (milk, dark, baking, unsweetened, natural, Dutched).  
Catechin, Epicatechin, Procyanidins (mono, 2-3-mers, 4-6-mers, 7-10-mers, polymers), ORAC.
- 106. Guillen, D.A., Barroso, C.G., Perez-Bustamante, J.A.**  
Automation of sample preparation as a preliminary stage in the high-performance liquid chromatographic determination of polyphenolic compounds in sherry wines.  
*J. Chromatogr. A*, 1996, 730(1/2), 39-46.  
Sherry wines (Fino, Amontillado, Oloroso).  
Catechin, Hydroxycinnamic acids, Gallic acid, Vanillic acid, Protocatechuic acid, Protocatechualdehyde, p-Hydroxybenzaldehyde, Syringaldehyde.
- 107. Häkkinen, S. H., Kärenlampi, S. O., Mykkänen, H. M., and Törrönen, A. R.**  
Influence of domestic processing and storage on flavonol contents in berries.  
*J. Agric. Food Chem.*, 2000, 48, 2960-2965.  
Strawberry, Raspberry - red, Currant - black, Bilberry, Lingonberry, Strawberry jam, Bilberry soup, Lingonberry - crushed, Lingonberry juice, Currant - black - juice - steam extracted, Currant - black - juice - cold-pressed with pectinase, Crowberry juice - cold-pressed with pectinase, crowberry juice - cold -pressed without pectinase.
- 108. Häkkinen, S. H., Törrönen, A. R.**  
Content of flavonols and selected phenolic acids in strawberries and *Vaccinium* species: influence of cultivar, cultivation site and technique.  
*Food Res. Int.*, 2000, 33, 517-524.  
Strawberry (Senga Sengana, Korona, Bounty, Polka, Polka (organic), Jonsok, Jansok (organic), Honeoy, Honeoy (organic)).  
Quercetin, Kaempferol, Ellagic acid, p-Coumaric acid.



- 109. Häkkinen, S. H., Kärenlampi, S. O., Heinonen, I. M., Mykkänen, H. M., and Törrönen, A. R.**  
 Content of flavonols quercetin, myricetin, and kaempferol in edible berries.  
*J. Agric. Food Chem.*, 1999, 47, 2274-2279.  
 Currant - black - green - red - white, Gooseberry - yellow -red, bog whortleberry, Lingonberry, Cranberry, Bilberry, Blueberry, Strawberry, Chokeberry, Rowanberry, Sweet Rowan, Raspberry - red, Cloudberry, Arctic bramble, Crowberry, Sea buckthorn berry.  
 Quercetin, Kaempferol, Myricetin.
- 110. Harnly, J. M., Doherty, R., Beecher, G. R., Holden, J. M., Haytowitz, D. B., and Bhagwat, S., and Gebhardt S.**  
 Flavonoid content of U.S. fruits, vegetables, and nuts.  
*J. Agric. Food Chem.*, 2006, 54, 9966-9977.  
 Fruits: Apples Avocados, Bananas, Blackberries, Blueberries, Cantaloupe, Cherries (sweet), cranberries, Dates, Figs (Mission), Grapefruit (white and red), Honeydew melon, Kiwi (green and gold), Nectarines, Oranges (sweet and navel), Peaches, Pears (green), Pineapple (extra sweet), Plums (regular and diamond black), Prunes, Raisins, Raspberries, Strawberries, and watermelon.  
 Vegetables: Broccoli. Broccoli raab, Carrots, Celery, Lettuce (Butterhead, Green leaf, Iceberg, Red leaf, Romaine), Onions (yellow, sweet), Potatoes (Red, Russet, White), Radishes, Tomatoes.  
 Nuts: Almonds, Cashews, Hazelnuts, Macademias, Pecans, Pine nuts, Pistachios, and walnuts.  
 Catechin, Gallocatechin, Catechin Gallate, Gallocatechin Gallate, Epicatechin, Epigallocatechin, Epicatechin Gallate, Epigallocatechin Gallate, Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin, Luteolin, Apigenin, Morin, Myricetin, Quercetin, Hesperetin, Naringenin, Poncirin.
- 111. Harnly, J. M., Doherty, R., Beecher, G. R., Holden, J. M., Haytowitz, D. B., and Bhagwat, S.**  
 Determination of 20 prominent flavonoids (as aglycones) in oranges.  
 (unpublished).
- 112. Hayashi, H., Hirako, N., Ikeshiro, Y., and Yamamoto, H.**  
 Organ specific localization of flavonoids in *Glycyrrhiza glabra* L.  
*Plant Sci.*, 1996, 116, 233-238.  
 Glycirrhiza Glabra L. (Licorice).  
 Isoquercitrin, liquirtigenin glycosides, Isoliquirtigenin glycosides, Pinocembrin, Licoflavonone, Formononetin.
- 113. Hempel, J., and Böhm, H.**  
 Quality and quantity of prevailing flavonoid glycosides of yellow and green french beans (*Phaseolus vulgaris* L.).  
*J. Agric. Food Chem.*, 1996, 44, 2114-2116.  
 French Beans - 6 green and 6 yellow varieties.

Quercetin, Kaempferol.

- 114. Herrera, M.C., and de Castro, M.D.L.**  
Ultrasound-assisted extraction for the analysis of phenolic compounds in strawberries.  
*Anal. Bioanal. Chem.*, 2004, 379(7-8), 1106-1112.  
Strawberriec, red.  
Catechin, Naringin, Ellagic acid, Quercetin, Kaempferol.
- 115. Hertog, M. G. L., Hollman, P. C. H., and van de Putte, B.**  
Content of potentially anticarcinogenic flavonoids of tea infusions, wines, and fruit juices.  
*J. Agric. Food Chem.*, 1993, 41, 1242-1246.  
Wine -red and white, Apple juice, Grape juice, Tomato juice, Grapefruit juice (fresh), Lemon juice (fresh), Orange juice (fresh), Orange juice (commercial composite), Beer (Heineken), Chocolate milk (semiskimmed), Coffee, Tea infusions (black, oolong, green).  
Queretiin Kaempferol, Myricetin, Apigenin, Luteolin.
- 116. Hertog, M. G. L., Hollman, P. C. H., and Katan, M. B.**  
Content of potentially anticarcinogenic flavonoids of 28 vegetables and fruits commonly consumed in The Netherlands.  
*J. Agric. Food Chem.*, 1992, 40, 2379-2383.  
Mushroom - raw, canned, Onion, Leek, Beet -red, Turnip grens, Kale - raw, canned, Saurkraut, Cabbage - white, Cauliflower, Brussels sprout, Broccoli, Swedish turnip (Rutabaga), Cabbage - red- raw, frozen, Cabbage - green, Endive, Chicory, Cucumber, Lettuce, French bean - raw, canned, Slicing bean, Pea - raw, canned, Purslane, Radish, Tomato, Spinach - raw, frozen, Broad bean - raw, canned, Pepper - red - sweet, Carrot - raw, canned, Strawberry, Apple (Granny Smith, James Grieve, golden delicious, Elstar, Jonagold, Cox's Orange), Applesauce, Currant - red, Apricot - raw, canned, Pear ( Conference, Beurré Hardy, Doyenne du Comice), Cherry - sweet - raw, canned, Plum, Peach - raw, canned, Grape - white, black.  
Quercetin, Kaempferol, Luteolin Myricetin, Apigenin.
- 117. Hertog, M. G. L., Hollman, P. C. H., and Venema, D. P.**  
Optimization of a quantitative HPLC determination of potentially anticarcinogenic flavonoids in vegetables and fruits.  
*J. Agric. Food Chem.*, 1992, 40, 1591-1598.  
Lettuce, Leek, Onion, Cranberry, Endive, Celery.  
Quercetin, Kaempferol, Myricetin, Apigenin, Luteolin.
- 118. Holtekjølen, A. K., Kinitz, C., and Knutsen, S. H.**  
Flavanol and bound phenolic acid contents in different barley varieties.  
*J. Agric. Food Chem.*, 2006, 54, 2253-2260.  
Barley – 16 varieties.

Catechin, Procyanidins, Phenolic acids (p-Coumaric acid, Ferulic acid).

- 119. Horbowicz, M. and Babik, I.**  
Sulforaphane and flavonoid contents in chosen broccoli cultivars.  
*Veg.crops Res. Bull.*, 2005, 62, 127-138.  
Broccoli – 8 cultivars.  
Kaempferol, Quercetin, Total phenols, Sulforaphanes.
- 120. Hosseinian, F. S. and Beta, T.**  
Saskatoon and wild blueberries have higher anthocyanin contents than other Manitoba berries.  
*J. Agric. Food Chem.*, 2007, 55, 10832-10838.  
Saskatoon berries, Wild Blueberries, Raspberries, Strawberries, Chokeberries, Seabuckthorn berries.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Pelargonidin, Petunidin.
- 121. Hosseinian, F. S., Li, W. and Beta, T.**  
Measurement of anthocyanins and other phytochemicals in purple wheat.  
*Food Chemistry*, 2008, 109, 916-924.  
Purple wheat.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Pelargonidin, Petunidin, Melatonin, Secoicolariciresinol.
- 122. Howard, L. R., Talcott, S. T., Brenes, C. H., and Villalon, B.**  
Changes in phytochemical and antioxidant activity of selected pepper cultivars (Capsicum species) as influenced by maturity.  
*J. Agric. Food Chem.*, 2000, 48, 1713-1720.  
Peppers: bell (Yellow Bell), cascabella (PETO cascabella), long yellow (Inferno), cayenne (Mesilla), Tabasco (Tabasco), habanero (Francisca, Red Sanvina).  
Quercetin, Luteolin.
- 123. Huang, Z., Wang, B., Eaves, D. H., Shikany, J. M., and Pace, R. D.**  
Phenolic compound profile of selected vegetables frequently consumed by African Americans in the southeast United States.  
*Food Chemistry*, 2007, 103, 1395-1402.  
Collard greens, Mustard greens, Kale, Okra, Sweet potato greens, Purple hull peas, green onion, Butter beans, Butter peas, Rutabagas, Eggplant, Purslane.  
Isorhamnetin, Kaempferol, Quercetin.
- 124. Huber, L. S., Hoffman-Ribani, R., and Rodriguez-Amaya, D. B.**  
Quantitative variation in Brazilian vegetable sources of flavonols and flavones.  
*Food Chemistry*, 2009, 113, 1278-1282.  
Smooth lettuce, Curly lettuce, Kale, New Zealand spinach, Rucula, White onion, Red onion, Parsley, Dehydrated onion, Dehydrated parsley.  
Kaempferol, Quercetin, Apigenin.

- 125. Inocencio, C., Rivera, D., Alcaraz, F., and Tomás-Barberán, F. A.**  
Flavonoid content of commercial capers (*Capparis spinosa*, *C. sicula* and *C. orientalis*) produced in Mediterranean countries.  
*Eur. Food Res. Technol.*, 2000, 212, 70-74.  
Capers (*C. Sicula* and *C. orientalis*).  
Quercetin, Kaempferol.
- 126. Innocenti, M., Michelozzi, M., Giaccherini, C., Ieri, F., Vincieri, F. F., and Mulinacci, N.**  
Flavonoids and bioflavonoids in Tuscan berries of *Juniperus communis* L.: detection and quantitation by HPLC/DAD/ESI/MS.  
*J. Agric. Food Chem.*, 2007, 55, 6596-6602.  
Juniper berries.  
Quercetin, Apigenin, Luteolin.
- 127. Innocenti, M., Gallori, S., Giaccherini, C., Ieri, F., Vincieri, F. F., and Mulinacci, N.**  
Evaluation of the phenolic content in the aerial parts of different varieties of *Cichorium intybus* L.  
*J. Agric. Food Chem.*, 2005, 53, 6497-6502.  
Chicory leaves – Catalogna, Belgian endive, Radicchio rosso di Cjioggia, Radicchio di Treviso.  
Cyanidin, Delphinidin, Quercetin, Luteolin, Caffeoyl tartaric acid, Chlorogenic acid, Chicoric acid.
- 128. Iurlina, M. O., Saiz, A. I., Fritz, R., and Manrique, G. D.**  
Major flavonoids of Argentinian honeys. Optimization of the extraction method and analysis of their content in relationship to the geographical source of honeys.  
*Food Chemistry*, 2009, 115, 1141-1149.  
Argentinian honeys – monoclonal and mixed.  
Myricetin, Quercetin, Luteoloin.
- 129. Iversen, C.K.**  
Black currant nectar: Effect of processing and storage on anthocyanin and ascorbic acid content.  
*J. Food Sci.*, 1999, 64(1), 37-41.  
Black currant (berries & nectar).  
Delphinidin glucosides, Cyanidin glucosides.
- 130. Jakobek L., Šeruga, M., Medvidović-Kosanović, M., and Novak, I.**  
Anthocyanin content and antioxidant activity of various red fruit juices.  
*Deutsche Lebensmittel-Rundschau*, 2007, 103, 58-64.  
Juices – Black currant, Raspberry, Blackberry, Sour cherry, Sweet cherry, Strawberry, Chokeberry, Elderberry.  
Cyanidin, Delphinidin, Peonidin, Pelargonidin, Total anthocyanins, Total polyphenols, Total antioxidant activity (DPPH).

- 131. Jakobek L., Šeruga, M., Novak, I., and Medvidović-Kosanović, M.**  
 Flavonols, phenolic acids and antioxidant activity of some red fruits.  
*Deutsche Lebensmittel-Rundschau*, 2007, 103, 369-378.  
 Black currant, Red currant, Red raspberry, Blackberry, Sour cherry, Sweet cherry, Strawberry, Chokeberry, Elderberry, Blueberry.  
 Kaempferol, Myricetin, Quercetin, Hydroxybenzoic acids (p-Hydroxybenzoic acid, Ellagic acid), Hydroxycinnamic acid (Caffeic acid, p-Coumaric acid, Ferulic acid).
- 132. Joedheim, M., Måge, F., and Anderson, Ø. M.**  
 Anthocyanins in berries of Ribes including gooseberry cultivars with a high content of acylated pigments.  
*J. Agric. Food Chem.*, 2007, 55, 5529-5535.  
 Alpine currant, Golden currant, European gooseberry, (cv Martlet, Rokula, Larell, Rolanda, Rosko, Scania, John's, Glendale, Agro, Taastrup, Pax, Samsø, Lofthus, Hinnonmäki red), Jostaberry.  
 Cyanidin, Peonidin.
- 133. Justesen, U., and Knuthsen, P.**  
 Composition of flavonoids in fresh herbs and calculation of flavonoid intake by use of herbs in traditional Danish dishes.  
*Food Chem.*, 2001, 73, 245-250.  
 Basil, Chives, Coriander, Cress, Dill, Lemon balm, Lovage, Mint, Oregano, Parsley, Rosemary, Sage, Tarragon, Thyme, Watercress.  
 Quercetin, Kaempferol, Apigenin, Luteolin, Isorhamnetin, Hesperetin.
- 134. Justesen, U., Knuthsen, P., and Leth, T.**  
 Quantitative analysis of flavonols, flavones, and flavonones in fruits, vegetables and beverages by high-performance liquid chromatography with photo-diode array and mass spectrometric detection.  
*J. Chromatogr. A*, 1998, 799, 101-110.  
 Apple, Apricot, Bean - green, Currant - black, Blueberry, Broccoli, Brussels sprout, Celery - leaf, Celery - stalk, Cherry, Cowberry, Cranberry, Grapefruit - pulp, Grapes - blue, Grapes - green, Kale, Leek, Lemon -pulp, Onion -red, yellow, Onion-spring, Oran), Rosebud, Salads (Cabbage lettuce, China cabbage, Oxheart cabbage, Iceberg salad, Savoy), Strawberry, Peppe- green, sweet, Pepper - sweet red, Pepper - sweet - yellow, Tea, Tomato.  
 Quercetin, Kaempferol, Myricetin, Hesperetin, Naringenin, Apegenin, Luteolin.
- 135. Kaack, K., and Austed, T.**  
 Interaction of vitamin C and flavonoids in elderberry (*Sambucus nigra* L.) during juice processing.  
*Plant Foods Hum. Nutr.*, 1998, 52, 187-198.  
 Elderberry - 13 cultivars.  
 Cyanidin glucosides, Quercetin.

- 136. Kachouri, F., and Hamdi, M.**  
 Use *Lactobacillus planatum* in olive oil process and improvement of phenolic compounds content.  
*J. Food Engineering, 2006, 77, 746-752.*  
 Olive oil.  
 Luteolin, Other phenolic compounds.
- 137. Kahkonen, M.P., Heinamaki, J., Ollilainen, V., and Heinonen, M.**  
 Berry anthocyanins: Isolation, identification, and antioxidant activities.  
*J. Sci. Food Agric., 2003, 83, 1403-1411.*  
 Blackcurrant, Bilberry, Cowberry.  
 Delphinidin conjugates, Cyanidin conjugates, Peonidin conjugates, Petunidin conjugates, Malvidin conjugates, Total anthocyanins.
- 138. Karadeniz, F., Durst, R. W., and Wrolstad, R. E.**  
 Polyphenolic composition of raisins.  
*J. Agric. Food Chem., 2000, 48, 5343-5350.*  
 Raisins – sun-dried, dipped, golden; grapes.  
 Kaempferol, Quercetin, Oxidized cinnamics, Caftaric acid, Coumaric acid, Protocatechuic acid.
- 139. Kelebek, H., Canbas, A., and Selli, S.**  
 Determination of phenolic composition and antioxidant capacity of blood orange juices obtained from cvs. Moro and Sanguinello (*Citrus sinensis* (L.) Osbeck) grown in Turkey.  
*Food Chemistry, 2008, 107, 1710-1716.*  
 Blood oranges – Moro, Sanguinello.  
 Hesperetin, Neohesperidin, Didymin, Naringenin, Cyanidin, Delphinidin, Peonidin, Hydroxybenzoic acids (Gallic, Protocatechuic), Hydroxycinnamic acids (Caffeic, Chlorogenic, p-Coumaric, Ferulic, Sinapic).
- 140. Kenjeric, Mandic, M. L., Primorac, L., Čacic, F.**  
 Flavonoid pattern of sage (*Salvia officinalis* L.) unifloral honey.  
*Food Chemistry, 2008, 110, 187-192.*  
 Sage honey.  
 Isorhamnetin, Kaempferol, Myricetin, Quercetin, Apigenin, Luteolin.
- 141. Kevers, C., Falkowski, M., Tabart, J., Defraigne, J-O., Dommès, J., and Pincemail, J.**  
 Evolution of antioxidant capacity during storage of selected fruits and vegetables.  
*J. Agric. Food Chem., 2007, 55, 8596-8603.*  
 Grapes (black, green), Banana, Lemon, Strawberry, Plum, Apple, Orange, Cherry, Apricot, Kiwifruit, Melon, Pear, Nectarine, Pepper (red, yellow, green), spinach, Broccoli, Garlic, Leek, Celery, Onion, Asparagus, Tomato, French bean, Lettuce, Cucumber, Carrot.

Kaempferol, Myricetin, Quercetin, Total flavonoids, Total anthocyanins, Total phenolics, DPPH, ORAC.

- 142. Khokhar, S. and Magnusdottir, S.G.M.**  
Total phenol, catechin, and caffeine contents of teas commonly consumed in the United Kingdom.  
*J. Agric. Food Chem.*, 2002, 50, 565-570.  
Black Tea (12 brands), Green Tea (6 types), & Fruit Tea (strawberry, lemon, cherry, forest fruit, blackcurrant, & orange).  
Epigallocatechin, Catechin, (-)-Epicatechin, Epigallocatechin-3-gallate, Epicatechin-3-gallate, Total catechins, Total phenols, Caffeine.
- 143. Khokhar, S., Venema, D., Hollman, P.C.H., Dekker, M., and Jongen, W.**  
A RP-HPLC method for the determination of tea catechins.  
*Cancer Letters*, 1997, 114, 171-172.  
Black tea (Ceylon, Yule, & PG-Tips), Green tea (China, Japan), and Oolong tea (China).  
(-)-Epigallocatechin, (-)-Epicatechin, (-)-Epigallocatechingallate, (-)-Epicatechingallate, Total catechins.
- 144. Kim, D-O., Heo, H. J., Kim, Y. J., Yang, H. S., and Lee, C. Y.**  
Sweet and sour cherry phenolics and their protective effects on neuronal cells.  
*J. Agric. Food Chem.*, 2005, 53, 9921-9927.  
Cherries – sweet (Hartland, Hedelfingen, Regina) and sour (Danube, Balaton, Schattenmorelle, Sumadinka).  
Cyanidin, Peonidin, Isorhamnetin, Kaempferol, Quercetin, Total phenolics, Total anthocyanins, Neochlorogenic acid, p-Coumaric acid, Chlorogenic acid.
- 145. Kirakosyan, A., Seymour, E. M., Urcuyo Llanes, D. E., Kaufman, P. B., and Bolling, S. F.**  
Chemical profile and antioxidant capacities of tart cherry products.  
*Food Chemistry*, 2009, 115, 20-25.  
Cyanidin, Pelargonidin, Peonidin, Isorhamnetin, Kaempferol, Quercetin, Melatonin, Total anthocyanins, Total phenolics.
- 146. Kosar, M., Kafkas, E., Paydas, S., and Base, H.C.**  
Phenolic composition of strawberry genotype at different maturation stages.  
*J. Agric. Food Chem.*, 2004, 52, 1586-1589.  
Strawberries (Camarosa, Dorit, Chandler, Osmanali).  
Cyanidin, Pelargonidin, P-OH-benzoic acid, P-coumaric acid, Ellagic acid, Kaempferol, quercetin, Myricetin.
- 147. Kreft, I., Fabjan, N., and Yasumoto, K.**  
Rutin content in buckwheat (*Fagopyrum esculentum* Moench) food materials and products.  
*Food Chemistry*, 2006, 98, 508-512.

- Buckwheat.  
Quercetin.
- 148. Kreft, S., Knapp, M., and Kreft, I.**  
Extraction of rutin from buckwheat (*Fagopyrum esculentum* Moench) seeds and determination by capillary electrophoresis.  
*J. Agric. Food Chem.*, 1999, 47, 4649-4652.  
Buckwheat.  
Rutin.
- 149. Kuhr, S., and Engelhardt, U. H.**  
Determination of flavonols, theogallin, gallic acid and caffeine in tea using HPLC.  
*Z Lebensm Unters Forsch*, 1991, 192, 526-529.  
Black teas, Green teas, Oolong teas.  
Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Caffeine.
- 150. Kuti, J.O.**  
Antioxidant compounds from four *Opuntia* cactus pear fruit varieties.  
*Food Chemistry*, 2004, 85, 527-533.  
Cactus Pear, *Opuntia* species (*O. ficus-indica*, *O. lindheimeri*, *O. streptocantha*, *O. stricta* v. *stricta*).  
Kaempferol, Quercetin, Isorhamnetin., Total flavonoids, Total carotenoids, ORAC.
- 151. Kuti, J.O., Konuru, H.B.**  
Antioxidant capacity and phenolic content in leaf extracts of tree spinach (*Cnidioscolus* spp.).  
*J. Agric. Food Chem.*, 2004, 52, 117-121.  
Tree Spinach (*Cnidioscolus aconitifolius*, *C. chayamansa*).  
Kaempferol, Quercetin, Total phenolics, ORAC.
- 152. Lako, J., Trenerry, V. C., Wahlqvist, M., Wattanapenpaiboon, N., Sotheeswaran, S., Premier, R.**  
Phytochemical flavonols, carotenoids and the antioxidant properties of a wide selection of Fijian fruit, vegetables and other readily available foods.  
*Food Chemistry*, 2007, 101, 1727-1741.  
Green leafy vegetables, steamed - Sweet potato (var. orange, Honaira, Tis3030, Papua); Drumstick, Taro, Bele (bush cabbage), Amaranth, Water spinach, Pako fern, Watercress, Pak choi, Savoy cabbage, Black mustard; Lettuce, raw.  
Fruits – Papaya, Brazilian pawpaw, Cherry, Mango, Tangerine, Pineapple, Coconut, Malacca apple, Watermelon, Banana.  
Root vegetables boiled- Sweet potato (var. orange, Vulatolu, Honaira, Tis3030, Papua), Water(Winged) yam (red, white), Yam (red, white), Taro, Arrowhead (elephant's ear), Yucca (yellow, white), Breadfruit, Banana.



- Coconut juice, Seaweed, Turmeric, Ginger, Scallion, Coconut flesh, Wild (shampoo) ginger.  
Isorhamnetin, Kaempferol, Myricetin, Quercetin, Carotenoids ( $\alpha$ -,  $\beta$ -carotene, Lycopene).
- 153. Lamuela-Raventós, R. M., Andrés-Lacueva, Permanyer, J., and Izquierdo-Pulido, M.**  
More antioxidants in cocoa.  
*J. Nutr.*, 2001, 131, 834.  
Cocoa.  
Quercetin.
- 154. Lattanzio, V., and van Sumere, C.F.**  
Changes in phenolic compounds during the development and cold storage of artichoke (*Cynara scolymus* L.) heads.  
*Food Chemistry*, 1987, 24, 37-50.  
Artichoke (cv. Catanese).  
Apigenin, Luteolin, Vanillic acid, syringic acid, *p*-Coumaric acid, Caffeic acid, ferulic acid.
- 155. Latti, A. K., Rihinen, K. R., and Kainulainen, P. S.**  
Analysis of anthocyanin variation in wild populations of bilberry (*Vaccinium myrtillus* L.) in Finland.  
*J. Agric. Food Chem.*, 2008, 56, 190-196.  
Bilberries.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin.
- 156. Le, K., Chiu, F., and Ng, K.**  
Identification and quantification of antioxidants in *Fructus lycii*.  
*Food Chemistry*, 2007, 105, 353-363.  
Goji berry (Wolfberry).  
Kaempferol. Myricetin, Quercetin.
- 157. Lee, J., and Finn, C. E.**  
Anthocyanins and other polyphenolics in American elderberry (*Sambucus Canadensis*) and European elderberry (*S. nigra*) cultivars.  
*J. Sci. Food Agric.*, 2007, 87, 2665-2675.  
Elderberries – American and European.  
Cyanidin, Delphinidin, Petunidin, Total anthocyanins, total phenolics.
- 158. Lee, K.W., Kim, Y.J., Kim, D-O., Lee, H.J., and Lee, C.Y.**  
Major phenolics in apple and their contribution to the total antioxidant capacity.  
*J. Agric. Food Chem.*, 2003, 51, 6516-6520.  
Apples (Golden Delicious, Cortland, Monroe, Rhode Island Greening, Empire, NY674).

Epicatechin, Quercetin, vitamin C, Chlorogenic acid, Phloretin , Procyanidin B2, VCEAC (vitamin C equivalent antioxidant capacity).

- 159. Lee, J., Durst, R.W., and Wrolstad, R.E.**  
Impact of juice processing on blueberry anthocyanins and polyphenolics: comparison of two pretreatments.  
*J. Food Sci.*, 2002, 67(5), 1660-1667.  
Blueberries (highbush, *Vaccinium corymbosum* L. cv. Rubel).  
Delphinidin-glycosides, Cyanidin-glycosides, Petunidin-glycosides, Peonidin-glycosides, Malvinidin-glycosides.
- 160. Lee, B-L., and Ong, C-N.**  
Comparative analysis of tea catechins and theaflavins by high-performance liquid chromatography and capillary electrophoresis.  
*J. Chromatogr. A.*, 2000, 881, 439-447.  
Tea - dry leaves (Japanese green, Long-jing green, Jasmine green, Chrysanthemum - dried flower, Pu-erh black, Iron Buddha - Oolong, Oolong, Ceylon black).  
Epicatechin, Epicatechin-gallate, Epigallocatechin. Epigallocatechin gallate, Theaflavin.
- 161. Lee, Y., Howard, L. R., and Villalón, B.**  
Flavonoids and antioxidant activity of fresh pepper (*Capsicum annum*) cultivars.  
*J. Food Sci.*, 1995, 60, 473-476.  
Pepper - Jalapeno (Veracruz, Mitla, Tam mild, Jaloro, Sweet Jalapeno), Pepper - yellow - wax (Hungarian yellow, Long hot yellow, Gold spike -hybrid), Pepper - Chile (New Mexico-6, Green chile), Pepper - Ancho, Pepper - Serrano Hidalgo).  
Quercetin, Luteolin.
- 162. Lichtenthäler, R., Rodrigues, R. B., Maia, J. G. S., Papagiannopoulos, M., Fabricius, H., and Marx, F.**  
Total oxygen scavenging capacities of *Euterpe oleracea* Mart. (Açaí) fruits.  
*Int. J. Food Sci. Nutr.*, 2005, 56, 53-64.  
Açaí berries.  
Cyanidin, Total Oxygen Scavenging Assay (TOSC).
- 163. Lin, L-Z., Lu, S., and Harnly, J. M.**  
Detection and quantification of glycosylated flavonoid malonates in celery, Chinese celery, and celery seed by LCDAD-ESI/MS.  
*J. Agric. Food Chem.*, 2007, 55, 1321-1326.  
Celery, Chinese celery, Celery seed.  
Apigenin, Luteolin, Chrysoeriol.

- 164. Lin, L-Z., Mukhopadhyay, S., Robbins, R. J., and Harnly, J. M.**  
 Identification and quantification of flavonoids of Mexican oregano (*Lippia graveolens*) by LC-DAD-ESI/MS analysis.  
*J. Food Comp. Anal.*, 2007, 20, 361-369.  
 Mexican oregano.  
 Apigenin, Luteolin, Scutallarein, Quercetin, Galangin, Eriodictyol, Naringenin, Taxifolin, Sakuranetin, Pinocebrin.
- 165. Lin J-K., Lin, C-L., Liang, Y-C., Lin-Shiau, S-Y., and Juan, I-M.**  
 Survey of catechins, gallic acid, and methylxanthines in green, oolong, pu-erh, and black teas.  
*J. Agric. Food Chem.*, 1998, 46, 3635-3642.  
 Black tea, Green Tea, Oolong tea, Pu-erh tea.  
 Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Gallocatechin-gallate, Gallic acid, Theophylline, Theobromine.
- 166. Lombard, K., Peffley, E., Geoffriau, E., Thompson, L., and Herring, A.**  
 Quercetin in onion (*Allium cepa* L.) after heat-treatment simulating home preparation.  
*J. Food Comp. Anal.*, 2005, 18, 571-581.  
 Onions yellow (Tamara, Predator, Rio Rita, RNX 10968), Red variety.  
 Quercetin, Total flavonoids.
- 167. Lombardi-Boccia, G., Lucarini, M., Lanzi, S., Agizzi, A., and Cappelloni, M.**  
 Nutrients and antioxidant molecules in yellow plums (*Prunus domestica* L.) from conventional and organic productions: a comparative study.  
*J. Agric. Food Chem.*, 2004, 52, 90-94.  
 Plums, yellow.  
 Quercetin, Kaempferol, Myricetin, Total Polyphenols, Phenolic acids, Proximates.
- 168. Lopez, M., Martinez, F., Del Valle, C., Orte, C., and Miro, M.**  
 Analysis of phenolic constituents of biological interest in red wines by high-performance liquid chromatography.  
*J. Chromat. A.*, 2001, 922, 359-363.  
 Red wine.  
 Rutin, Quercetin, Total phenols, Gallic acid, *trans*-Resveratrol.
- 169. Lugasi, A. and Hovari, J.**  
 Flavonoid aglycons in foods of plant origin II. Fresh and dried fruits.  
*Acta Alimentaria*, 2002, 31(1), 63-71.  
 Plum (Redskin & Besztercei), Peach, Apricot, Greengage (white skin, red skin), Walnut, Sweet cherry, Sour cherry, Blackberry, Raspberry, Strawberry, Blackcurrant, Redcurrant, Gooseberry (green, red), Mulberry, Grape (Cardinal, Chasselas, Othello), Apple (Gala, Golden, Jonathan), Pomegranate, Pear, Quince-apple, Watermelon, Muskmelon, Pumpkin, Lemon, Grapefruit, Tangerine, Orange, Kiwi, Banana.

Quercetin, Luteolin, Myricetin, Total flavonoids.

**170. Lugasi, A., and Hovari, J.**

Flavonoid aglycons in foods of plant origin I. Vegetables.

*Acta Alimentaria*, 2000, 29, 345-352.

Lettuce (generic, crisped, ice), Spinach, Parsley leaves, Celery leaves, Dill, Radish (purple, black), Horse radish, Red Beet, Carrot, Parsnip, Celery root, Swedish turnip, Cauliflower, Broccoli, Kohlrabi, Brussels sprouts, Kale, Chinese cabbage, White cabbage, Red cabbage, Onions (old, young, red), Leek, Sweet pepper, Californian pepper, tomato, Cucumber.  
Quercetin, Kaempferol, Myricetin, Luteolin, Apigenin.

**171. Luo, X.-D., Basile, M.J., and Kennelly, E.J.**

Polyphenolic antioxidants from the fruits of *Chrysophyllum cainito* L. (Star Apple).

*J. Agric. Food Chem.*, 2002, 50(6), 1379-1382.

Star apple.

(+)-Catechin, (-)-Epicatechin, (+)-Gallocatechin, (-)-Epigallocatechin, Quercetin, Quercitrin, Isoquercitrin, Myricitrin, Gallic acid.

**172. Määttä, K. R., Kamal-Eldin, A., and Torronen, A.R.**

Identification and classification of phenolic compounds in berries of *Fragaria* and *Rubus* species (family Rosaceae).

*J. Agric. Food Chem.*, 2004, 52, 6178-6187.

Strawberries (Jonson), Raspberries (Muskoka, yellow cultivated, red wild), Arctic bramble (Mespi, Pima), Cloudberries.

Catechin, Epicatechin, Isorhamnetin, Kaempferol, Quercetin, Cyanidin, Pelargonidin, *p*-Coumaric acid, Caffeic acid, Gallic acid, Ellagic acid, Proanthocyanidins.

**173. Määttä, K.R., Kamal-Eldin, A., and Torronen, A.R.**

High-Performance liquid chromatography (HPLC) analysis of phenolic compounds in berries with diode array and electrospray ionization mass spectrometric (MS) detection: *Ribes* species.

*J. Agric. Food Chem.*, 2003, 51, 6736-6744.

Currants (Black, Green, Red and White).

Myricetin, Quercetin, Kaempferol, Delphinidin, Cyanidin, Caffeoylglucose, Caffeic acid, *p*-coumaric acid, Ferulic acid.

**174. Makris, D.P. and Rossiter, J.T.**

Domestic processing of onion bulbs (*Allium cepa*) and asparagus spears (*Asparagus officinalis*): Effect on flavonol content and antioxidant status.

*J. Agric. Food Chem.*, 2001, 49(7), 3216-3222.

Onion bulbs, raw and boiled, Asparagus, raw and boiled.

Quercetin, Rutin.

- 175. Marin, F.R., Martinez, M., Uribesalgo, T., Castillo, S., and Frutos, M.J.**  
Changes in nutraceutical composition of lemon juices according to different industrial extraction systems.  
*Food Chemistry*, 2002, 78(3), 319-324.  
Lemon juice (Fino & Verna varieties).  
Eriocitrin, Hesperidin, Luteolin-7-O-rutinoside, Diosmin, Flavonoids, Ascorbic acid.
- 176. Marini, D., and Balestrieri, F.**  
Multivariate analysis of flavanone glycosides in citrus juices.  
*Ital. J. Food sci.*, 1995, 3, 255-264.  
Orange juice.  
Narirutin, Neoeriocitrin, naringin, hesperidin, Neohesperidin.
- 177. Marotti, M. and Piccaglia, R.**  
Characterization of flavonoids in different cultivars of onion (*Allium cepa* L.).  
*J. Food Sci.*, 2002, 67(3), 1229-1232.  
Onion (12 cultivars).  
Quercetin glycosides, Isorhamnetin, Isorhamnetin monoglycoside, Rutin, Total flavonoids.
- 178. Martínez-Sánchez, A., Gil-Izquierdo, A., Gil, M. I., and Ferreres, F.**  
A comparative study of flavonoid compounds, vitamin C, and antioxidant properties of baby leaf Brassicaceae species.  
*J. Agric. Food Chem.*, 2008, 56, 2330-2340.  
Watercress, Mizuna, Wild rocket, Salad rocket.  
Isorhamnetin, Kaempferol, Quercetin.
- 179. Mattila, P., Astola, J., and Kumpulainen, J.**  
Determination of flavonoids in plant material by HPLC with diode-array and electro-array detection.  
*J. Agric. Food Chem.*, 2000, 48, 5834-5841.  
Lingonberry, Cranberry, Red onion, Yellow onion, Broccoli, Green tea, Black tea, red wine, Apple, Lemon, Orange, Parsley.  
Quercetin, Myricetin, Kaempferol, Isorhamnetin, Eriodictyol, Catechin, Epicatechin, Epicatechin gallate, Epigallocatechin gallate, Naringenin, Hesperetin, Luteolin, Apigenin.
- 180. McMurrrough, I. and Madigan, D.**  
Semipreparative chromatographic procedure for the isolation of dimeric and trimeric proanthocyanidins from barley.  
*J. Agric. Food Chem.*, 1996, 44(7), 1731-1735.  
Beer.  
(+)-Catechin, (-)-Epicatechin, Total monomers, Procyanidins B3 & T4, Prodelphinidins B3, T1-T3, Total dimers and trimers, Total flavonols.

- 181. Mertz, C., Cheynier, V., Günata, Z., and Brat, P.**  
 Analysis of phenolic compounds in two blackberry species (*Rubus glaucus* and *Rubus adenotrichus*) by high-performance liquid chromatography with diode array detection and electrospray ion trap mass spectrometry.  
*J. Agric. Food Chem.*, 2007, 55, 8616-8624.  
 Blackberries – *Rubus glaucus* and *adenotrichus*.  
 Epicatechin, Kaempferol, Quercetin, Cyanidin, Gallic acid, Hydroxycinnamic acids, Ellagic acids, Ellagitannins, Lambertanin, Sanguin.
- 182. Mikkonen, T., Määttä, K.R., Hukkanen, A. T., Kokko, H. I., Törrönen, T., Kärenlampi, S. O., and Karjalainen, R. O.**  
 Flavonol content varies among black currant cultivars.  
*J. Agric. Food Chem.*, 2001, 49, 3274-3277.  
 Black currants – 10 cultivars.  
 Kaempferol, Myricetin, Quercetin.
- 183. Milbury, P. E., Chen, C-Y., Dolnikowski, G. G. and Blumberg, J. B.**  
 Determination of flavonoids and phenolics and their distribution in almonds.  
*J. Agric. Food Chem.*, 2006, 54, 5027-5033.  
 Almonds (varieties: Carmel, Butte, Padre, Fritz, Mission, Monterey, Nonpareil, and Price).  
 Catechin, Epicatechin, Quercetin-gl. And aglycone, Naringenin-gl and aglycone, Rutin, Kaempferol-gl and aglycone, Isorhamnetin-gl. And aglycone, Eriodictyol, Protocatechuic acid, *p*-hydroxy-benzoic acid, and Vanillic acid.
- 184. Montefiori, M., McGhie, T. K., Costa, G., and Ferguson, A. R.**  
 Pigments in the fruit of red-fleshed kiwifruit (*Actinidia chinensis* and *Actinidia deliciosa*).  
*J. Agric. Food Chem.*, 2005, 53, 9526-9530.  
 Kiwifruit – Red-fleshed.  
 Cyanidin, Total anthocyanins, Carotenoids, Chlorophylls.
- 185. Morelló, J-R., Romero, M-P., and Motilva, M-J.**  
 Effect of the maturation process of the olive fruit on the phenolic fraction of drupes and oils from Arbequina, Farga, and Morrut cultivars.  
*J. Agric. Food Chem.*, 2004, 52, 6002-6009.  
 Olive oil (Arbequina, Farga and Morrut cultivars), Olive pulp.  
 Apigenin, Luteolin, Other phenolic compounds.
- 186. Mouly, P. P., Gaydou, E. M., Faure, R., and Estienne, J. M.**  
 Blood orange juice authentication using cinnamic acid derivatives. Variety differentiations associated with flavanone glycoside content.  
*J. Agric. Food Chem.*, 1997, 45, 373-377.  
 Blood orange juice (Washington sanguine, Malta, Sanguineli, Moro).  
 Narirutin, Hesperidin, Didymin, Cinnamic acid.

- 187. Mouly, P. P., Arzouyan, C. R., Gaydou, E. M., and Estienne, J. M.**  
Differentiation of citrus juices by factorial discriminant analysis using liquid chromatography of flavanone glycosides.  
*J. Agric. Food Chem.*, 1994, 42, 70-79.  
Lemon juice, Lime juice, Grapefruit juice (white, pink, red, green), Orange juice (Valencia, Navel, Blood, Thompson, Malta).  
Eriocitrin, Neoeriocitrin, Narirutin, Naringin, Hesperidin, Neohesperidin).
- 188. Mouly, P., Gaydou, E. M., and Estienne, J.**  
Column liquid chromatographic determination of flavanone glycosides in Citrus.  
*J. Chromatogr.*, 1993, 634, 129-134.  
Grapefruit juice, Sour orange juice.  
Eriocitrin, Neoeriocitrin, Narirutin, Hesperidin, Naringin, Neohesperidin.
- 189. Mullen, W., Marks, S., and Crozier, A.**  
Evaluation of phenolic compounds in commercial fruit juices and fruit drinks.  
*J. Agric. Food Chem.*, 2007, 55, 3148-3157.  
Ocean Spray Classic Cranberry Drink, Welch's Purple Grape juice, Tesco Pure Pressed Red Grape Juice, Pomgreat Pomegranate Drink, Tesco Pure Apple Juice (clear), Copella Apple Drink (cloudy), Tesco Pure Grapefruit Juice, Tesco Value Pure Orange Juice (concentrate), Tropicana Pure Premium Smooth Orange Juice (squeezed), Tropicana Pure Premium Tropical Fruit Juice, Tesco Pure Pressed White Grape Juice, Tesco Pure Pineapple Juice, Del Monte Premium Tomato Juice.  
Epicatechin, Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Procyanidins, Myricetin, Quercetin, Eriodictyol, Hesperetin, Naringenin, Isosakuranetin, Apigenin, Caffeoylquinic acid, Caffaric acid, Caffeic acid, Coumaric acid, Ferulic acid, Phloretin, Chrysoeriol.
- 190. Mullen, W., Stewart, A.J., Lean, M.E.J., Gardner, P., Duthie, G.G., and Crozier, A.**  
Effect of freezing and storage on the phenolics, ellagitannins, flavonoids, and antioxidant capacity of red raspberries.  
*J. Agric. Food Chem.*, 2002, 50, 5197-5201.  
Raspberries.  
Quercetin, Kaempferol, Cyanidin, Pelargonidin, *p*-Coumaric acid, Total Phenolics, vitamin C, Ellagic acid, Antioxidant capacity (Fremy's salt reduction by Electron Spin Resonance Spectroscopy).
- 191. Netzel, M., Netzel, G., Tian, Q., Schwartz, S., and Konzak, I.**  
Sources of antioxidant activity in Australian native fruits. Identification and quantification of anthocyanins.  
*J. Agric. Food Chem.*, 2006, 54, 9820-9826.  
Muntries, Tasmanian peppers, Molucca raspberries, Davidson's plums, Cedar Bay cherries, Burdekin plums, Blueberries.

- Cyanidin, Delphinidin, Malvidin, Pelargonidin, Pronidin, Petunidin, Total phenolics, Antioxidant assays – RSA (Radical Scavenging Assay), FRAP.
- 192. Nicolle, C., Carnat, A., Fraisse, D., Lamison, J-L., Rock, E., Michel, H., Amouroux, P., and Remesy, C.**  
Characterization and variation of antioxidant micronutrients in lettuce (*Lactuca sativa folium*).  
*J. Sci. Food Agric.*, 2004, 84, 2061-2069.  
Lettuce: butter, Batavia, oak leaf (green and red).  
Quercetin.
- 193. Nogata, Y., Ohta, H., Yoza, K-I., Berhow, M., and Hasegawa, S.**  
High-performance liquid chromatographic determination of naturally occurring flavonoids in citrus with a photodiode-array detector.  
*J. Chromatogr. A*, 1994, 667, 59-66.  
Pummelo juice, Mandarin juice.  
Eriocitrin, Neoeriocitrin, Narirutin, Naringin, rutin, Hesperidin, Neojesperidin, Isorhoifolin, rhoifolin, diosmin, Neodiosmin, Poncirin, Luteolin, Kaempferol, apigenin, Diosmetin, Sinensetin, Acacetin, Tangeretin.
- 194. Nuutila, A.M., Kammiovirta, K., and Oksman-Caldentey, K.-M.**  
Comparison of methods for the hydrolysis of flavonoids and phenolic acids from onion and spinach for HPLC analysis.  
*Food Chem.*, 2002, 76(4), 519-525.  
Red onion, Spring onion (red)-bulb, Spinach.  
Quercetin, Kaempferol.
- 195. Nyman, N. A. and Kumpulainen, J. T.**  
Determination of anthocyanins in berries and red wine by high-performance liquid chromatography.  
*J. Agric. Food Chem.*, 2001, 49, 4183-4187.  
Strawberries, Black currants, Bilberries, Red wine.  
Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin.
- 196. Ollanketo, M., and Riekkola, M-L.**  
Column-switching technique for selective determination of flavonoids in Finnish berry wines by high-performance liquid chromatography with diode array detection.  
*J. Liq. Chrom. & Rel. Technol.*, 2000, 23, 1339-1351.  
Wines - Black currant, Blueberry, Crowberry.  
Rutin, Isoquercitrin, Myricetin, Quercetin, Kaempferol.
- 196a. Ocean Spray.**  
Personal communications. 2017.  
Cranberry products.  
Cyanidin, Peonidin, Myricetin, Quercetin



- 197. Olsen, H., Aaby, K., and Borge, G. I.**  
Characterization and quantification of flavonoids and hydroxycinnamic acids in curly kale (*Brassica oleracea* L. convar. *Acephala* var. *sabellica*) by HPLC-DAD-ESI-MS.  
*J. Agric. Food Chem.*, 2009, 57, 2816-2825.  
Curly kale.  
Kaempferol, Quercetin, Hydroxycinnamic acids, Total flavonols, Total phenolics.
- 198. Ooghe, W. C., and Detavernier, C. M.**  
Detection of the addition of citrus *reticulata* and hybrids to citrus *sinensis* by flavonoids.  
*J. Agric. Food Chem.*, 1997, 45, 1633-1637.  
Orange juice, Tangerine juice, Temple juice, Mandarin juice, Murcott juice, Cravo juice (hybrid), Kinno juice (hybrid).  
Narirutin, Hesperidin, Didymin.
- 199. Oomah, D. B., and Mazza, G.**  
Flavonoids and antioxidative activities in buckwheat.  
*J. Agric. Food Chem.*, 1996, 44, 1746-1750.  
Buckwheat.  
Rutin.
- 200. Oszmianski, J., and Lee, C. Y.**  
Isolation and HPLC determination of phenolic compounds in red grapes.  
*Am. J. Enol. Vitic.*, 1990, 41, 204-206.  
Grapes - red (Concord, Chaunac).  
Epicatechin, Rutin, Quercetin glucosides, Procyanidin B3, Caffeoyl tartaric acid, Coumaroyl tartaric acid.
- 201. Ozga, J. A., Saeed, A., Wismer, W., and Reinecke, D. M.**  
Characterization of cyaniding- and quercetin-derived flavonoids and other phenolics in mature Saskatoon fruits (*Amelanchier alnifolia* Nutt.).  
*J. Agric. Food Chem.*, 2007, 55, 10414-10424.  
Saskatoon berries.  
Cyanidin, Quercetin, Hydroxycinnamic acids.
- 202. Palimino, O., Gómez\_Serranillos, M. P., Carretero, S. E., and Villar, A.**  
Study of polyphenols in grape berries by reversed-phase high-performance liquid chromatography.  
*J. Chromatogr. A*, 2000, 870, 449-451.  
Grape.  
Rutin, Quercitrin, Quercetin, Resveratrol.
- 203. Pallau, K., Rivas-Gonzalo, J. C., del Castillo, M. D., Cano, M. P., and de Pascual-Tertesa, S.**

- Characterization of the antioxidant composition of strawberry tree (*Arbutus unedo* L.) fruits.  
*J. Food Comp. Anal.*, 2008, 21, 273-281.  
 Strawberry tree fruits.  
 Cyanidin, Delphinidin, Myricetin, Quercetin, Proanthocyanidins, Ellagic acid, Carotenoids.
- 204. Papagiannopoulos, M., Wollseifen, H.R., Mellenthin, A., Haber, B., and Galensa, R.**  
 Identification and quantification of polyphenols in carob fruits (*Ceratonia siliqua* L.) and derived products by HPLC-UV-ESI/MS<sup>n</sup>.  
*J. Agric. Food Chem.*, 2004, 52, 3784-3791.  
 Carob fiber, Carob Flour, Kibbles syrup.  
 Myricetin, Quercetin, Kaempferol, Total Phenolics, Condensed Tannins, Hydrolyzable Tannins, DPPH, Trolox.
- 205. Patil, B. S., Pike, L. M., and Hamilton, B. K.**  
 Changes in quercetin concentration in onion (*Allium cepa* L.) owing to location, growth stage and soil type.  
*New Phytol.*, 1995, 130, 340-355.  
 Onion - yellow.  
 Quercetin.
- 206. Patil, B. S., Pike, L. M., and Yoo, K. S.**  
 Variation in the quercetin content in different colored onions (*Allium cepa* L.).  
*J. Amer. Soc. Hort. Sci.*, 1995, 120, 909-913.  
 Onion- red (6 cultivars), pink (3 cultivars), yellow (45 cultivars), Vidalia (10 cultivars), white (11 cultivars).  
 Quercetin.
- 206a. Pei et al.**  
 Unpublished Data. 2015.  
 Bananas.  
 Anthocyanins.
- 207. Pérez-Gregorio, R. M., García-Falón, M. S., Simal-Gándara, J., Rodrigues, A. S., and Almeida, D. P. F.**  
 Identification and quantification of flavonoids in traditional cultivars of red and white onions at harvest.  
*J. Food Comp. Anal.*, 2010, 23, 592-598.  
 White and red onions.  
 Isorhamnetin, Quercetin.
- 208. Pellegrini, N., Chiavaro, E., Gardana, C., Mazzeo, T., Contino, D., Gallo, M., Riso, P., Fogliano, V., and Porrini, M.**

- Effect of different cooking methods on color, phytochemical concentration, and antioxidant capacity of raw and frozen Brassica vegetables.  
*J. Agric. Food Chem.*, 2010, 58, 4310-4321.  
 Broccoli, Brussels sprouts, Cauliflower – fresh and frozen, raw, boiled, microwaved, basket steamed, oven steamed.  
 Kaempferol, Quercetin, Carotenoids, Glucosinolates, Phenolic acids, Total phenols, Chlorophylls.
- 209. Pinto, M. D. S., Lajolo, F. M., and Genovese, M. I.**  
 Bioactive compounds and antioxidant capacity of strawberry jam.  
*Plant Foods Hum Nutr*, 2007, 62, 127-131.  
 Strawberry jam.  
 Kaempferol, Quercetin, Pelargonidin, Total phenolics, Ellagic acid, Antioxidant capacity ( $\beta$ -carotene bleaching method).
- 210. Pinto, M. D. S., Lajolo, F. M., and Genovese, M. I.**  
 Bioactive compounds and quantification of total ellagic acid in strawberries (*Fragaria x ananasa* Duch.).  
*Food Chemistry*, 2008, 107, 1629-1635.  
 Strawberries – 7 cultivars.  
 Catechin, Epicatechin, Cyanidin, Pelargonidin, Kaempferol, Quercetin, Total phenolics, Ellagic acid.
- 211. Pour Nikfardjam, M. S., Márk, L., Avar, P., Figler, M., and Ohmacht, R.**  
 Polyphenols, anthocyanins, and trans-resveratrol in red wines from the Hungarian villainy region.  
*Food Chemistry*, 2006, 98, 453-462.  
 Red wines – Cabernet franc, Cabernet sauvignon, Cabernet, sau/fr, Cuvee, Kadarka, Kékfrankos, Merlot, Oportó, Pinot noir, Portugieser, Royal cuvee, Rubin cuvee, Shiraz, Zweigelt.  
 Catechin, Epicatechin, Delphinidin, Malvidin, Peonidin, petunidin.
- 212. Price, K. R., Prosser, T., Richetin, A. M. F., and Rhodes, M. J. C.**  
 A comparison of the flavonol content and composition of dessert, cooking and cider-making apples; distribution within the fruit and effect of juicing.  
*Food Chem.*, 1999, 66, 489-494.  
 Apples with skin. Eating apples - Egremont, Cox's Orange, Granny Smith, Jonagored; Cooking apples - Bramley; Cider apples - Dabinett, Michelin, Yarlington.  
 Quercetin.
- 213. Price, K. R., Casuscelli, F., Colquhoun, I. J., and Rhodes, M. J. C.**  
 Composition and content of flavonol glycosides in broccoli florets (*Brassica oleracea*) and their fate during cooking.  
*J. Sci. Food Agric.*, 1998, 77, 468-472.  
 Broccoli - raw, cooked.

Quercetin, Kaempferol, Isoquercitrin.

- 214. Price, K. R., Colquhoun, I. J., Barnes, K. A., and Rhodes, M. J. C.**  
Composition and content of flavonol glycosides in green beans and their fate during processing.  
*J. Agric. Food Chem.*, 1998, 46, 4898-4903.  
Green beans - raw, canned.  
Quercetin, Kaempferol.
- 215. Price, K. R., Rhodes, M. J. C., and Barnes, K. A.**  
Flavonol glycoside content and composition of tea infusions made from commercially available teas and tea products.  
*J. Agric. Food Chem.*, 1998, 46, 2517-2522.  
Black teas, Tea products.  
Quercetin glycosides, Kaempferol glycosides.
- 216. Price, K. R., and Rhodes, M. J. C.**  
Analysis of the major flavonol glycosides present in four varieties of onion (*Allium cepa*) and changes in composition resulting from autolysis.  
*J. Sci. Food Agric.*, 1997, 74, 331-339.  
Onion - Red Barron - red, Rijnsburger - brown, Rose - pink, Albion - white.  
Quercetin.
- 217. Price, K. R., Bacon, J. R., and Rhodes, M. J. C.**  
Effect of storage and domestic processing on the content and composition of flavonol glucosides in onion (*Allium cepa*).  
*J. Agric. Food Chem.*, 1997, 45, 938-942.  
Onion - brown, red.  
Quercetin.
- 218. Price, W. E. And Spitzer, J. C.**  
Variations in the amount of individual flavanols in a range of green teas.  
*Food Chem.*, 1993, 47, 271-276.  
Green teas.  
Epicatechin, Epigallocatecin, Epigallocatechin gallate, Epicatechin gallate.
- 219. Proteggente, A.R., Saija, A., De Pasquale, A., and Rice-Evans, C.A.**  
The compositional characterisation and antioxidant activity of fresh juices from Sicilian sweet orange (*Citrus sinensis* L. Osbeck) varieties.  
*Free Radical Research*, 2003, 37(6), 681-687.  
Orange juice (Varieties: Navel, Valencia, Ovale, Sanguinello, Moro, Tarocco).  
Narirutin, Hesperidin, Cyanidin glucosides, Anthocyanin congenates, Didymin, Hydrocinnamic acids (Chlorogenic acid, *p*-Coumaric acid, Ferulic + Sinapic acid), Ascorbic acid.
- 220. Pupin A. M., Dennis, M. J., and Toledo, M. C. F.**

- Flavanone glycosides in Brazilian orange juice.  
*Food Chem.*, 1998, 61, 275-280.  
 Orange juice (Brazilian).  
 Narirutin, Hesperidin.
- 221. Puupponen-Pimia, R., Häkkinen, S.T., Aarni, M., Suortti, T., Lampi, A-M., Euroola, M., Piironen, V., Nuutila, A M., and Oksman-Caldentey, K-M.**  
 Blanching and long-term freezing affect various bioactive compounds of vegetables in different ways.  
*J. Sci. Food Agric.*, 2003, 83, 1389-1402.  
 Peas fresh, processed), Carrots, Cauliflower, Cabbage, Spinach, Potatoes, Swede.  
 Dietary fiber components, minerals, Folic acid, Vitamin C,  $\beta$ -Carotene,  $\alpha$ -Carotene, Total phenolics, Sterols, Quercetin, Kaempferol.
- 222. Pyo, Y-H., Lee, T-C., Logendra, L., and Rosen, R.T.**  
 Antioxidant activity and phenolic compounds of Swiss chard (*Beta vulgaris* subspecies *cykla*) extracts.  
*Food Chemistry*, 2004, 85, 19-26.  
 Swiss chard (red tissue, white tissue).  
 Catechin, Myricetin, Quercetin, Kaempferol, Gallic acid, *p*-benzoic acid, Protocatechuic acid, syringic acid, Vannilic acid, chlorogenic acid, Caffeic acid, *p*-Coumaric acid, ferulic acid, DPPH.
- 223. Quettier-Eleu, C., Gressier, B., Vasseur, J., Dine, T., Brunet, C., Luyckx, M., Cazin M., Cazin, J-C., Bailleul, F., and Trotin, F.**  
 Phenolic compounds and antioxidant activities of buckwheat (*Fagopyrum esculentum* Moench) hulls and flour.  
*J. Ethnopharmacol.*, 2000, 72, 35-42.  
 Buckwheat - hull, flour.  
 Epicatechin, Rutin, Hyperoside, Procyanidin B2.
- 224. Raffo, A., Leonardi, C., Fogliano, V., Ambrosino, P., Salucci, M., Gennaro, L., Buglianesi, R., Giuffrida, F., and Quaglia, G.**  
 Nutritional value of cherry tomatoes (*Lycopersicon esculentum* Cv. Naomi F1) harvested at different ripening stages.  
*J. Agric. Food Chem.*, 2002, 50(22), 6550-6556.  
 Cherry tomato (cv Naomi).  
 Rutin, Quercetin, Naringenin, Chlorogenic acid, Caffeic acid, *p*-Coumaric acid, Ferulic acid, Carotenoids, Ascorbic acid (reduced & total), Alpha-tocopherol.
- 225. Rechner, A.R., Wagner, E., Van Buren, L., Van de Put, F., Wiseman, S., and Rice-Evans, C.A.**  
 Black tea represents a major source of dietary phenolics among regular tea drinkers.  
*Free Radic. Res.*, 2002, 36(10), 1127-1135.

- Black tea (7 brands).  
Epicatechin, Epigallocatechin, Epigallocatechin gallate, Epicatechin gallate, Theaflavins (1-4), Quercetin glucosides, Kaempferol glucosides, Thearubigins (total), Total flavonols, Total polyphenols, Hydroxycinnamic acids, Gallic acid.
- 226. Řehová, L., Škeříková, V., and Jandera, P.**  
Optimisation of gradient HPLC analysis of phenolic compounds and flavonoids in beer using a CoulArray detector.  
*J. Sep. Sci.*, 2004, 27, 1345-1359.  
Czech Beer (Platan 11, light lager), German beer (Lowenbrau premium).  
Catechin, Epicatechin, Rutin.
- 227. Reto, M., Figueira, M. E., Filipe, H. M., and Almeida, C. M. M.**  
Chemical composition of green tea (*Camellia sinensis*) infusions commercialized in Portugal.  
*Plant Foods Hum Nutr*, 2007, 62, 139-144.  
Green tea.  
Catechin, Epicatechin, Epicatechin gallate, Epigallocatechin, Epigallocatechin gallate, Caffeine.
- 228. Revilla, E., Ryan, J-M., and Martin-Ortega, G.**  
Comparison of several procedures used for the extraction of anthocyanins from red grapes.  
*J. Agric. Food Chem.*, 1998, 46(11), 4592-4597.  
Red grapes (Cabernet Sauvignon).  
Delphinidin, Cyanidin, Petunidin, Peonidin, Malvidin.
- 229. Revilla, E.**  
Analysis of flavonol aglycones in wine extracts by high performance liquid chromatography.  
*Chromatographia*, 1986, 22, 1-6.  
Wine - red, white, Sherry.  
Quercetin, Kaempferol, Myricetin, Isorhamnetin.
- 230. Ribani, H. F., Huber, L. S., and Ridriguez-Amaya, D. B.**  
Flavonols in fresh and processed Brazilian fruits.  
*J. Food Comp. Anal.*, 2009, 22, 263-268.  
Acerola – raw, concentrated juice, frozen pulp, Apple, Cashew-apple – raw, ready-to-drink juice, concentrated juice, frozen pulp, Fig, Guava, Jabuticaba, Orange, Pitanga – raw, concentrated juice, frozen pulp, Strawberries.  
Kaempferol, Myricetin, Quercetin.
- 231. Rodriguez-Delgado, M.-A., Gonzalez-Hernandez, G., Conde-Gonzalez, J.-E., and Perez-Trujillo, J.-P.**  
Principal component analysis of the polyphenol content in young red wines.  
*Food Chem.*, 2002, 78(4), 523-532.

- Red wine.  
Catechin, Epicatechin, Quercetin, Quercitrin, Myricetin, Kaempferol,  
Hydroxybenzoic acids, Hydroxycinnamic acids (Caffeic acid, *p*-coumaric acid,  
ferulic acid), Phenolic aldehydes.
- 232. Rodríguez-Delgado, M. A., Malovaná, S., Pérez, J. P., and Borges, T.**  
Separation of phenolic compounds by high-performance liquid chromatography  
with absorbance and fluorimetric detection.  
*J. Chromatogr. A*, 2001, 912, 249-257.  
Red wine, White wine.  
Catechin, Epicatechin, Myricetin, Quercetin, Kaempferol, Gallic acid,  
Protocatechuic acid, Vanillic acid, Caffeic acid, Syringic acid, *p*-Coumaric acid,  
Ferulic acid, *trans*-Resveratrol.
- 233. Rodríguez-Delgado, M. A., Pérez, M. L., Corbella, R., González, G., García  
Montelongo, F. J.**  
Optimization of the separation of phenolic compounds by micellar electokinetic  
capillary chromatography.  
*J. Chromatogr. A*, 2000, 871, 427-438.  
Wines - Spanish.  
Catechin, epicatechin, Quercetin, rutin, Myricetin, Kaempferol, Ferulic acid, *p*-  
Coumaric acid, Vannilic acid.
- 234. Romani, A., Vignolini, P., Galardi, C., Mulinacci, N., Benedettelli, s., and  
Heimler, D.**  
Germplasm characterization of Zolfino Landraces (*Phaseolus vulgaris* L.) by  
flavonoid content.  
*J. Agric. Food Chem.*, 2004, 52, 3838-3842.  
Zolfino Landraces (Tuscan legume).  
Quercetin, kaempferol, Daidzein, Genistein, delphinidin, Petunidin, Malvidin.
- 235. Rusak, G., Komes, D., Likić, S., Horžić, D., and Kovač, M.**  
Phenolic content and antioxidative capacity of green and white tea extracts  
depending on extraction conditions and the solvent used.  
*Food Chemistry*, 2008, 110, 852-858.  
Green tea (bag, loose), White tea (bag, loose).  
Epicatechin gallate, Epigallocatechin, Gallocatechin gallate, Epigallocatechin  
gallate, Antioxidant capacity (FRAP, ABTS).
- 236. Rouseff, R. L.**  
Liquid chromatographic determination of naringin and neohesperidin as a  
detector of grapefruit juice in orange juice.  
*J. Assoc. Off. Anal. Chem.*, 1988, 71, 798-802.  
Orange juice, Grapefruit juice.  
Naringin, Neohesperidin.

- 237. Rouseff, R. L., Barros, S. M., Dougherty, M. H., and Martin, S. F.**  
A survey of quality factors found in florida canned single-strength grapefruit juice from the 1977-78, 1978-79, and 1979-80 seasons.  
*Proc. Fla. State Hort. Soc.*, 1980, 93, 286-289.  
Grapefruit juice (canned).  
Naringin, Limonin.
- 238. Sakakibara, H., Honda, Y., Nakagawa, S., Ashida, H., and Kanazawa, K.**  
Simultaneous determination of all polyphenols in vegetables, fruits, and teas.  
*J. Agric. Food Chem.*, 2003, 51 (3), 571-581.  
Taro, Cabbage, Celery, Coriander, radish leaves, Turnip leaves, Broccoli, Cacao, Tomato, Black soybean, Carob, Peas (garden), Kumquat, Orange, Sweet cherries, Green tea (dry), Oolong tea (dry), Black tea (dry).  
Quercetin, Kaempferol, Isorhamnetin, Apigenin, Luteolin, Catechin, Epicatechin, Theaflavin, Theaflavin gallates.
- 239. Sampson, L., Rimm, E., Hollman, P.C.H., de Vries, J.H.M., and Katan, M.B.**  
Flavonol and flavone intakes in US health professionals.  
*J. Am. Diet. Assoc.*, 2002, 102(10), 1414-1420.  
Apples (Delicious, Granny Smith, Macintosh), Avocado, Cantaloupe, Watermelon, Alfalfa sprouts, Onions-Spanish (white, yellow), Pepper (green), Apple Juice (Motts, Storebrand, Veryfine), Tea (Lipton, Salada, Tetley), Red wine (Cabernet Sauvignon, Merlot, Syrah).  
Quercetin, Myricetin, Kaempferol.
- 240. San, B. and Yildirim, A. N.**  
Phenolic, alpha-tocopherol, beta-carotene and fatty acid composition of four promising jujube (*Zizipus jujube* Miller) selections.  
*J. Food Comp. Anal.*, 2010, 23, 706-710.  
Jujube (Ber).  
Catechin, Epicatechin, Quercetin, Caffeic acid, Chlorogenic acid, Ferulic acid, Beta-carotene, p-Hydroxybenzoic acid.
- 241. Sanchez-Moreno, C., Plaza, L., de Ancos, B., and Cano., M.P.**  
Quantitative bioactive compounds assessment and their relative contribution to the antioxidant capacity of commercial orange juices.  
*J. Sci. Food Agric.*, 2003, 83(5), 430-439.  
Orange juice.  
Naringenin, Hesperetin, Total flavanones, Carotenoids, Vitamin A, Vitamin C.
- 242. Sanchez-Moreno, C., Plaza, L., de Ancos, B., and Cano., M.P.**  
Effect of high-pressure processing on health-promoting attributes of freshly squeezed orange juice (*Citrus sinensis* L.) during chilled storage.  
*Eur. Food Res. Technol.*, 2003, 216, 18-22.  
Orange juice (freshly squeezed, variety Valencia late).  
Naringenin, Hesperetin.



- 243. Sanchez-Moreno, C., Cao, G., Ou, B., and Prior, R.L.**  
Anthocyanin and proanthocyanin content in selected white and red wines. Oxygen radical absorbance capacity comparison with nontraditional wines obtained from highbush blueberry.  
*J. Agric. Food Chem.*, 2003, 51, 4889-4896.  
Red wines.  
Delphinidin, Cyanidin, Petunidin, Peonidin, Malvidin, Catechin, Proanthocyanidin dimmers, trimers, tetramers, Total Phenolics, ORAC.
- 244. Schauss, A. G., Wu, X., Prior, R. L., Ou, B., Patel, D., Huang, D., and Kababick, J. P.**  
Phytochemical and nutrient composition of the freeze-dried Amazonian palm berry, *Euterpe oleracea* Mart. (Acai).  
*J. Agric. Food Chem.*, 2006, 54, 8598-8603.  
Acai berry powder.  
Cyanidin, Peonidin.
- 245. Schieber, A., Keller, P., Carle, R.**  
Determination of phenolic acids and flavonoids of apple and pear by high-performance liquid chromatography.  
*J. Chromatogr. A*, 2001, 910, 265-273.  
Apple juice, Pear, (apple pomace - not entered).  
Catechin, Epicatechin, Quercetin, Procyanidin B1, Procyanidin B2, Coumaroyl glucose, Chlorogenic acid, Caffeic acid, Phloretin, Phloridzin, 5-hydroxymethyl furfural.
- 246. Schutz, K., Kammerer, D., Carle, R., and Schieber, A.**  
Identification and quantification of caffeoylquinic acids and flavonoids from artichoke (*Cynara scolymus* L.) heads, juice and pomace by HPLC-DAD-ESI/MS<sup>n</sup>.  
*J. Agric. Food Chem.*, 2004, 52, 4090-4096.  
Artichoke heads, juice and pomace.  
Luteolin, Apigenin, Naringenin, Caffeoylquinic acids.
- 247. Sellappan, S., Akoh, C.C., and Krewer, G.**  
Phenolic compounds and antioxidant capacity of Georgia-grown blueberries and blackberries.  
*J. Agric. Food Chem.*, 2002, 50(8), 2432-2438.  
Blueberries (Rabbiteye & Southern highbush), Blackberries.  
Catechin, Epicatechin, Myricetin, Quercetin, Kaempferol, Gallic acid, *p*-Hydroxy benzoic acid, Caffeic acid, *p*-Coumaric acid, Ferulic acid, Ellagic acid, Total anthocyanins, Total polyphenolics.
- 248. Sellappan, s. and Akoh, C.**  
Flavonoids and antioxidant capacity of Georgia-grown *Vidalia* onions.

*J. Agric. Food Chem.*, 2002, 50, 5338-5342.

Vidalia onions.

Kaempferol, quercetin, Myricetin, Total Polyphenols, TEAC.

- 249. Shao, W. Powell, C., and Clifford, M. N.**  
 The analysis by HPLC of green, black and pu'er teas produced in Yunnan.  
*J. Sci. Food Agric.*, 1995, 69, 535-540.  
 Black tea, Green tea, Pu'er tea.  
 Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Theaflavin, Theaflavin-3-gallate, Theaflavin-3'-gallate, Theaflavin-3-3'-gallate, Thearubigins.
- 250. Shishikura, Y. and Khokar, S.**  
 Factors affecting the levels of catechins and caffeine in tea beverage: estimated daily intakes and antioxidant activity.  
*J. Sci. Food Agric.*, 2005, 85, 2125-2133.  
 Green tea – leaves, powdered, bag.  
 Catechin, Epicatechin, Epicatechin gallate, Epigallocatechin, Epigallocatechin gallate, Caffeine, Total phenols, Antioxidant activity (FRAP).
- 251. Simonetti, P., Piétta, P., and Testolin, G.**  
 Polyphenol content and total antioxidant potential of selected Italian wines.  
*J. Agric. Food Chem.*, 1997, 45, 1152-1155.  
 Wines - red, white.  
 Quercetin, Kaempferol, Myricetin, Isorhamnetin, Rutin.
- 252. Šimunić, V., Kovač, s., Gašo-Sokač, d., Pfannhauser, W., and Murkovic, M.**  
 Determination of anthocyanins in four Croatian cultivars of sour cherries (*Prunus cerasus*).  
*Eur Food Res Technol*, 2005, 220, 575-578.  
 Sour cherries.  
 Cyanidin.
- 253. Skegret, M. Kotnik, P., Hadolin, M., Hraš, A.R., Simonic, M., and Knez, Z.**  
 Phenols, proanthocyanidins, flavones, and flavonols in some plant materials and their antioxidant activities.  
*Food Chemistry*, 2005, 89, 191-198.  
 Laurel, Oregano, Olive tree, Hypericum, Hawthorn.  
 Quercetin, Luteolin, Apigenin, Kaempferol, Myricetin.
- 254. Slimestad, R., Vangdal, E., and Brede, C.**  
 Analysis of phenolic compounds in six Norwegian plum cultivars (*Prunus domestica* L.).  
*J. Agric. Food Chem.*, 2009, 57, 11370-11375.  
 Plums- 6 cultivars.  
 Cyanidin, Peonidin, Quercetin, Caffeoylquinic acid.

- 255. Slimestad, R., Toskangerpoll, K., Nateland, H.S., Johannessen, T., and Giske, N.H.**  
 Flavonoids from black chokeberries, *Aronia melanocarpa*.  
*J. Food Comp. Anal.*, 2005, 18, 61-68.  
 Black Chokeberries.  
 Eriodictyol, Neochlorogenic acid, Chlorogenic acid, Quercetin, Cyanidin.
- 256. Spanos, G.A. and Wrolstad, R.E.**  
 Influence of processing and storage on the phenolic composition of Thompson seedless grape juice.  
*J. Agric. Food Chem.*, 1990(a), 38(7), 1565-1571.  
 Grape juice (from Thompson seedless grapes).  
 Catechin, Epicatechin, Procyanidins B1-B4, Trimer + Tetramer, Total procyanidins, Total unknowns.
- 257. Spanos, G.A., Wrolstad, R.E., and Heatherbell, D.A.**  
 Influence of processing and storage on the phenolic composition of apple juice.  
*J. Agric. Food Chem.*, 1990(b), 38(7), 1572-1579.  
 Apple juice (from Granny Smith, Red delicious, McIntosh, & Spartan variety).  
 Catechin, Epicatechin, Quercetin glycosides & totals, Procyanidins B1-B4, Total procyanidins, Phloretin glycosides & totals, Cinnamics.
- 258. Steadman, K. J., Burgoon, M.S., Lewis, B.A., Edwardson, S., and Obendorf, R.L.**  
 Minerals, phytic acid, tannin and rutin in buckwheat seed milling fractions.  
*J. Sci. Food Agric.*, 2001, 81, 1094-1100.  
 Buckwheat groats, Buckwheat flour.  
 Rutin, Quercetin.
- 259. Steinhaus, B., and Engelhardt, U. H.**  
 Theaflavins in black tea.  
*Z Lebensm Unters Forsch*, 1989, 188, 509-511.  
 Black tea.  
 Total theaflavins, Theaflavin, Theaflavin-e gallate, Theaflavin-3'-gallate, Theaflavin-3-3'-gallate.
- 260. Stewart, A. J., Bozonnet, S., Mullen, W., Jenkins, G., Lean, M. E. J., and Crozier, A.**  
 Occurrence of flavonols in tomatoes and tomato-based products.  
*J. Agric. Food Chem.*, 2000, 48, 2663-2669.  
 Tomatoes - Spanish, Israeli, South African, English, Scottish -Beefsteak, Cherry, Yellow.  
 Quercetin, Kaempferol.

- 261. Suárez, B., Picinelli, A., Mangas, J. J.**  
Solid-phase extraction and high-performance liquid chromatographic determination of polyphenols in apple musts and ciders.  
*J. Chromatogr. A*, 1996, 727, 203-209.  
Apple - must, cider.  
Epicatechin, Quercetin, Caffeic acid, p-Coumaric acid.
- 262. Tarola, A. M., Milano, F., and Giannetti, V.**  
Simultaneous determination of phenolic compounds in red wines by HPLC.  
*Analytical Letters*, 2007, 40, 2433-2445.  
Red wines – Primitivo Puglia, Castel de Polis, Solopaca, Montepulciano, Barbera, Ciro, Merlot, Colferraio, Rosso del Salento, Primitivo di Manduria.  
Catechin, Epicatechin, Quercetin, Gallic acid, Caffeic acid, Chlorogenic acid, Resveratrol.
- 263. Teissedre, P-L., and Landrault, N.**  
Wine phenolics: contribution to dietary intake and bioavailability.  
*Food Res. Int.*, 2000, 33, 461-467.  
Wines - red, white.  
Catechin, Epicatechin, Malvidin, Procyanidin B1, B2, B3, B4, Caffeic acid p-Coumaric acid, gallic acid.
- 264. Tomas-Barberan, F.A., Gil, M.I., Cremin, P., Waterhouse, A.L., Hess-Pierce, B., and Kader, A.A.**  
HPLC-DAD-ESIMS analysis of phenolic compounds in nectarines, peaches, and plums.  
*J. Agric. Food Chem.*, 2001, 49, 4748-4760.  
Nectarines (white & yellow flesh), Peaches (white & yellow flesh), Plums (red & yellow).  
Catechin, Epicatechin, Quercetin glycosides, Cyanidin glycosides, Hydrocinnamic acid derivatives, Procyanidins (B1 & others for nectarines and peaches; B1, B2, B4, A-type dimers, & others for plums), Totals.
- 265. Tomás-Lorente, F., García-Viguera, C., Ferreres, F., and Tomás-Barberán, F.**  
Phenolic compounds analysis in the determination of fruit jam genuineness.  
*J. Agric. Food Chem.*, 1992, 40, 1800-1804.  
Jams - Apricot, Peach, Plum, Strawberry, Sour Orange.  
Quercetin, Kaempferol, Rutin, Naringin, Neohesperidin.
- 266. Toyoda, M., Tanaka, K., Hoshino, K., Akiyama, H., Tanimura, A., and Saito, Y.**  
Profiles of potentially antiallergic flavonoids in 27 kinds of health tea and green tea infusions.  
*J. Agric. Food Chem.*, 1997, 45, 2561-2564.  
Green teas, Health teas.  
Quercetin, Myricetin, Kaempferol, Apigenin, Luteolin, Scutellarein.

- 267. Trichopoulou, A., Vasilopoulou, E., Hollman, P., Chamalides, Ch., Foufa, E., Kaloudis, Tr., Kromhout, D., Miskaki, Ph., Petrochilou, I., Poulima, E., Stafilakis, K., and Theophilou, D.**  
 Nutritional composition and flavonoid content of edible wild greens and green pies: a potential rich source of antioxidant nutrients in the Mediterranean diet.  
*Food Chem.*, 2000, 70, 319-323.  
 Fennel, Chive, Annual saw-thistle, Hartwort, Corn poppy, Dock - broad leaf, Queen Anne's lace, Cretan green pie.  
 Quercetin, Kaempferol Myricetin, Isorhamnetin, Luteolin, Apigenin.
- 268. Tsanova-Savova, S., and Ribarova, F.**  
 Free and conjugated myricetin, quercetin, and kaempferol in Bulgarian red wines.  
*J. Food Comp. Anal.*, 2002, 15, 639-645.  
 Red wines (Bulgarian).  
 Myricetin, Quercetin, Kaempferol.
- 269. Tsanova-Savova, S., Ribarova, F., and Gerova, M.**  
 (+)-Catechin and (-)-Epicatechin in Bulgarian fruits.  
*J. Food Comp. Anal.*, 2005, 18, 691-698.  
 Apple, Pear, Peach, Apricot, Plum, Cherry, sweet, Cherry, sour, Raspberry, Blackberry, Strawberry, Blueberry, Grape, black, Grape, white, Melon, Fig.  
 Catechin, Epicatechin.
- 270. Tsao, R., Yang, R., Young, J.C., and Zhu, H. T**  
 Polyphenolic profiles in eight apple cultivars using high-performance liquid chromatography (HPLC).  
*J. Agric. Food Chem.*, 2003, 51, 6347-6353.  
 Apples (Empire, McIntosh, Cortland, Red Delicious, Northern Spy, Golden Delicious, Ida Red).  
 Catechin, Epicatechin, Procyanidin B2, Cyanidin, Quercetin, Phloretin, Phloridzin, Total polyphenolics.
- 271. Tsushida T., and Suzuki, M.**  
 Content of flavonol glucosides and some properties of enzymes metabolizing the glucosides in onion.  
*J. Jap. Soc. Food Sci. Technol.*, 1996, 43, 642-649.  
 Onion - yellow (7 cultivars), red (1 cultivatar), white (3 cultivars).  
 Quercetin, Isorhamnetin.
- 272. Unilever Bestfoods, North America.**  
 Summary Flavonoid Content of Teas in the U.S. Market.  
 Unpublished Data, 2002.
- 273. Usenik, V., Štampar, F., and Veberič, R.**  
 Anthocyanins and fruit color in plums (*Prunus domestica* L.) during ripening.

- Food Chemistry*, 2009, 114, 529-534.  
Plums – 4 varieties.  
Cyanidin, Peonidin.
- 274. Usenik, V., Fabčič, J., and Štampar, F.**  
Sugars, organic acids, phenolic composition and antioxidant activity of sweet cherry (*Prunus avium* L.).  
*Food Chemistry*, 2008, 107, 185-192.  
Sweet cherries.  
Epicatechin, Quercetin, Chlorogenic acid, p-Coumaroylquinic acid, Total phenols, Antioxidant activity (Antioxidant Equivalent of Ascorbic Acid, AEAC).
- 275. Valles, B.S., Santamaria Victorero, J., Mangas Alonso, J.J., and Blanco Gomis, D.**  
High-performance liquid chromatography of the neutral phenolic compounds of low molecular weight in apple juice.  
*J. Agric. Food Chem.*, 1994, 42, 2732-2736.  
Apple juice (N Senora, San Pedro, & San Juan varieties).  
Catechin, Epicatechin, Rutin, Quercetin, Isoquercetin + Hyperin, Procyanidins B1, B2, C1 + tetramer, Unknown procyanidin, , Phloretin xyloglucoside, Unknown flavonol, Avicularin, Phloridzin.
- 276. Valavanidis, A., Vlachogianni, T., Psomas, A., Zovoili, A., and Siatis, V.**  
Polyphenolic profile and antioxidant activity of five apple cultivars grown under organic and conventional agricultural practices.  
*Int. J. Food Sci. Technol.*, 2009, 44, 1167-1175.  
Apples – Red Delicious Starking, Golden Delicious, Granny Smith, Royal Gala, Jona Gold.  
Catechin, Epicatechin, Procyanidins, Cyanidin, Quercetin, Chlorogenic acid.
- 277. Vanamala, J., Reddivari, L., Yoo, K. S., Pike, L. M., and Patil, B. S.**  
Variation in the content of bioactive flavonoids in different brands of orange and grapefruit juices.  
*J. Food Comp. Anal.*, 2006, 19, 157-166.  
Orange juice, Grapefruit juice – different brands.  
Hesperitin, Naringenin, Didymin, Poncirin, Quercetin.
- 278. Vandercook, C. E., and Tisserat, B.**  
Flavonoid changes in developing lemons grown in vivo and in vitro.  
*Phytochemistry*, 1989, 28, 799-803.  
Lemon.  
Hesperidin, Rutin, Diosmin.
- 279. van der Sluis, A.A., Dekker, M., de Jager, A., and Jongen, W.M.F.**  
Activity and concentration of polyphenolic antioxidants in apple: Effect of cultivar, harvest year, and storage conditions.

- J. Agric. Food Chem.*, 2001, 49(8), 3606-3613.  
Apples-w/o skin & whole (Jonagold)  
Quercetin glycosides, Epicatechin, Phloridzin, Chlorogenic acid.
- 280. Veberic, R., Jakopic, J., Stampar, F., and Schmitzer, V.**  
European elderberry (*Sambucus nigra* L.) rich in sugars, organic acids, anthocyanins and selected polyphenols.  
*Food Chemistry*, 2009, 114, 511-515.  
European elderberries.  
Cyanidin, Quercetin.
- 281. Veberic, R., Colaric, M., and Stampar, F.**  
Phenolic acids and flavonoids of fig fruit (*Ficus carica* L.) in the northern Mediterranean region.  
*Food Chemistry*, 2008, 106, 153-157.  
Fig – 3 cultivars.  
Catechin, Epicatechin, Quercetin, Gallic acid, Chlorogenic acid, Syringic acid.
- 282. Velioglu, Y. S., Ekici, L., and Poyrazoglu, E. S.**  
Phenolic composition of European cranberrybush (*Viburnum opulus* L.) berries and astringency removal of its commercial juice.  
*Int. J. Food Sci. Technol.*, 2006, 41, 1011-1015.  
European cranberrybush berries.  
Catechin, Epicatechin, Procyanidin, Cyanidin, Quercetin, Chlorogenic acid, Hydroxybenzoic acid, Total phenolics.
- 283. Vrhovsek, U., Rigo, A., Tonon, D., and Mattivi, F.**  
Quantitation of polyphenols in different apple varieties.  
*J. Agric. Food Chem.*, 2004, 52, 6532-6538.  
Apples – Renetta, Red Delicious, Granny Smith, Morgenduft, Golden Delicious, Royal Gala, Braeburn, Fuji.  
Catechin, Epicatechin, Procyanidins, Cyanidin, Quercetin, Total polyphenols, Hydroxycinnamates (5'-caffeoyl, p-Coumaroylquinic, p-Coumaric acids), Dihydrochalcones (Phloridzin, Phloretin).
- 284. Vuorinen, H., Määttä, Törrönen, R.**  
Content of the flavonols Myricetin, Quercetin, and Kaempferol in Finnish berry wines.  
*J. Agric. Food Chem.*, 2000, 48, 2675-2680.  
Berry wines Red - Black currant, Red currant, Strawberry, Raspberry, black currant-strawberry, raspberry, black currant-crowberry, Black currant-crowberry-rose hip, Crowberry, Bog whortleberry- strawberry-black currant-crowberry, Berry wines White - White currant, Gooseberry.  
Quercetin, Kaempferol, Myricetin.



- 285. Wang, S. Y., Chen, H., Camp, M. J., and Ehlenfeldt, M. K.**  
Flavonoid constituents and their contribution to antioxidant activity in cultivars and hybrids of rabbiteye blueberry (*Vaccinium ashei* Reade).  
*Food Chemistry, 2012, 132, 855-864.*  
Blueberries Rabbiteye (36 cultivars) and hybrids (6).  
Myricetin, Quercetin, Cyanidin, Delphinidin, Malvidin, Petunidin.
- 286. Wang, C. Y., Wang, S. Y., and Chen, C.**  
Increasing antioxidant activity and reducing decay of blueberries by essential oils.  
*J. Agric. Food Chem., 2008, 56, 3587-3592.*  
Blueberries.  
Kaempferol, Myricetin, Quercetin, Cyanidin, Delphinidin, Malvidin, Petunidin, Chlorogenic acid, Resveratrol.
- 287. Wang, S. Y., Chen, C., Sciarappa, W., Wang, C. Y., and Camp, M.**  
Fruit quality, antioxidant capacity, and flavonoid content of organically grown and conventionally grown blueberries.  
*J. Agric. Food Chem., 2008, 56, 5788-5794.*  
Blueberries.  
Myricetin, Quercetin, Cyanidin, Delphinidin, Malvidin, Petunidin, Chlorogenic acid, Resveratrol, Total phenolics, ORAC.
- 288. Wang, M., Simon, J.E., Aviles, I.F., He, K., Zheng, Q-Y., Tadmor, Y.**  
Analysis of antioxidative phenolic compounds in artichoke (*Cynara scolymus* L.).  
*J. Agric. Food Chem., 2003, 51, 601-608.*  
Artichoke heads (Imperial Star, Green Globe, Violet).  
Apigenin, Luteolin, Naringenin, 1-caffeoylquinic acid, chlorogenic acid, Cynaroside, Cynarin.
- 289. Wang, S.Y., and Lin, H-S.**  
Compost as a soil supplement increases the level of antioxidant compounds and oxygen radical absorbance capacity in strawberries.  
*J. Agric. Food Chem., 2003, 51, 6844-6850.*  
Strawberries (Allstar, Honeoye).  
Kaempferol, Elagic acid, *p*-Coumaroyl glucose, Dihydroflavonol, Cyanidin, Pelargonidin, ORAC.
- 290. Wang, S.Y., Zheng, W., and Galleta, G.**  
Cultural system affects fruit quality and antioxidant capacity in strawberries.  
*J. Agric. Food Chem., 2002, 50, 6534-6542.*  
Strawberries (Allstar, Earliglow, Delmarvel, Latestar, Lester, Mohawk, Northeaster, Redchief, B28, B35, B244-89, MEUS 8, MEUS 9, US 292).

Quercetin, Kaempferol, Ellagic acid, *p*-Coumaroyl glucose, Cyanidin, Pelargonidin, Fructose, Glucose, Sucrose, Malic acid, Citric acid, Ascorbic acid, Soluble solids, ORAC.

- 291. Wang, H. F., Helliwell, K.**  
Determination of flavonols in green and black tea leaves and green tea infusions by high-performance liquid chromatography.  
*Food Res. Int.*, 2001, 34, 223-227.  
Green tea leaves, Black tea leaves, Green tea infusions.  
Quercetin, Kaempferol, Myricetin
- 292. Wang, H., Nair, M. G., Iezzoni, A. F., Strasburg, G. M., Booren, A. M., and Gray, I.**  
Quantification and characterization of anthocyanins in Balaton tart cherries.  
*J. Agric. Food Chem.*, 1997, 45, 2556-2560.  
Cherries - Balaton, Montmorency.  
Cyanidin.
- 293. Will, F., Hilsendegen, P., Bonerz, D., Patz, C-D., and Dietrich, H.**  
Analytical composition of fruit juices from different sour cherry cultivars.  
*J. Appl. Bot. Food Qual.*, 2005, 79, 12-16.  
Sour cherry juices – 5 cultivars.  
Catechin, epicatechin, Quercetin, Cyanidin, Peonidin, 3-, 5-Coumaroylquinic acid, Chlorogenic acid.
- 294. Wu, X., Beecher, G. R., Holden, J. M., Haytowitz, D. B., Gebhardt, S. E., and Prior, R. L.**  
Concentrations of anthocyanins in common foods in the United States and estimation of normal consumption.  
*J. Agric. Food Chem.*, 2006, 54, 4069-4075.  
Fruits: Apples (Fuji, Gala, Red delicious), Blackberry, Marion blackberry, Blueberry (cultivated, wild), Cherry (sweet), Chokeberry, cranberry, Currant (black, red), Elderberry, Gooseberry, Grape (red, Concord), Nectarine, Peach, Plum (black), Raspberry (black, red), Strawberry. Vegetables: Black bean, Eggplant, Red cabbage, Red leaf lettuce, Red onion, Red radish, Small red beans. Nuts: Pistachio.
- 295. Wu, X., Gu, L., Prior, R. L., and McKay, S.**  
Characterization of anthocyanins and proanthocyanidins in some cultivars of *Ribes*, *Aronis*, and *Sambucus* and their antioxidant capacity.  
*J. Agric. Food Chem.*, 2004, 52, 7846-7856.  
Black Currants (cv. Ben Alder, Ben Navis, Ben, Lomond, Ben Tirran, Titania, Ukraine), Gooseberries (cv. Winham, Lancashire, Dan's Mistake, Careless), Chokeberries, Elderberries, Red Currants.  
Cyanidin, Delphinidin, Pelargonidin, Peonidin, Petunidin, Total Phenolics, ORAC.

- 295a. Wu, X., Sun, J., Ahuja, J., Haytowitz, D. B., Burton-Freeman, B., Chen, P., Pehrsson, P. R.**  
 Anthocyanin profiles and contents in processed raspberries on the US market. Experimental Biology 2017. Chicago, IL. April 22-26, 2017.  
 Raspberry products.  
 Cyanidin, Pelargonidin
- 296. Yamada, K., Naemura, A., Sawashita, N., Noguchi, Y., and Yamamoto, J.**  
 An onion variety has natural antithrombotic effect as assessed by thrombosis/thrombolysis models in rodents.  
*Thrombosis Res.*, 2004, 114, 213-220.  
 Onion yellow (Kitamiko27, Toyohira, Kitawasa3, Tsukisappu, Superkitamomiji, CS3-12, Rantaro, 2935A, K83211), Onion red (Tsukiko22).  
 Quercetin, Platelet reactivity, Coagulation, Thrombolytic activity.
- 297. Yang, B., Halttunen, T., Raimo, O., Price, K., and Kallio, H.**  
 Flavonol glycosides in wild and cultivated berries of three major subspecies of Hippophaë rhamnoides and changes during harvesting period.  
*Food Chemistry*, 2009, 115, 657-664.  
 Sea buckthorn berries, wild.  
 Isorhamnetin, Quercetin.
- 298. Yao, L., Jiang, Y., Singanusong, R., D'Arcy, B., Datta, N., Caffin, N., and Raymond, K.**  
 Flavonoids in Australian Melaleuca, Guia, Lophostemon, Banksia and Helianthus honeys and their potential for floral authentication.  
*Food Res. Int.*, 2004, 37, 166-174.  
 Honeys (Australia).  
 Myricetin, Quercetin, Luteolin, Kaempferol, Isoramnetin, Tricetin, PinocebrinChrysin, Pinobanksin, Genkwanin.
- 299. Yao, L., Jiang, Y., D'Arcy, B., Singanusong, R., Datta, N., Caffin, N., and Raymond, K.**  
 Quantitative high-performance liquid chromatography analyses of flavonoids in Australian Eucalyptus honeys.  
*J. Agric. Food Chem.*, 2004, 52, 210-214.  
 Honeys (Australian Eucalyptus ).  
 Myricetin, Quercetin, Luteolin, Kaempferol, Isoramnetin, Tricetin, PinocebrinChrysin, Pinobanksin.
- 300. Yilmaz, Y., and Toledo, R.T.**  
 Major flavonoids in grape seeds and skins: Antioxidant capacity of catechin, epicatechin, and gallic acid.  
*J. Agric. Food Chem.*, 2004, 52, 255-260.  
 Grape seeds (Muscadine).  
 Catechin, Epicatechin, Gallic acid, ORAC.

- 301. Yoo, K.M., Lee, K.W., Park, J.B., Lee, H.J., and Hwang, I.K.**  
 Variation in major antioxidants and total antioxidant activity of yuzu (*Citrus junos Sieb ex Tanaka*) during maturation and between cultivars.  
*J. Agric. Food Chem.*, 2004, 52, 5907-5913.  
 Yuzu (Citrus fruit) cv. Wando, Goheung, Sadeung.  
 Hesperetin, Naringenin, Total Phenolics, Vitamin C, Total antioxidant activity.
- 302. You, Q., Wang, B., Chen, F., Huang, Z., Wang, X., and Luo, P.**  
 Comparison of anthocyanins and phenolics in organically and conventionally grown blueberries, in selected cultivars.  
*Food Chemistry*, 2011, 125, 201-208.  
 Blueberries – Powder blue, Climax, Tifblue.  
 Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Quercetin, Caffeic acid, Chlorogenic acid, p-Coumaric acid, Total phenols, Total anthocyanins, ORAC.
- 303. Young, J. E., Zhao, X., Carey, E. E., Welti, R., Yang, S-S., and Wang, W.**  
 Phytochemical phenolics in organically grown vegetables.  
*Mol. Nutr. Food Res.*, 2005, 49, 1136-1142.  
 Lettuce - Kalura leaf, Red Sails leaf, Collard green (top bunch), Pac Choi.  
 Apigenin, Luteolin, Kaempferol, Quercetin.
- 304. Yusof, S., Ghazali, H. M., and King, G. S.**  
 Naringin content in local citrus fruits.  
*Food Chem.*, 1990, 37, 113-121.  
 Pummelo, Rough lime.  
 Naringin.
- 305. Yousfi, K., Cert, R. M., and García, J. M.**  
 Changes in quality and phenolic compounds of virgin olive oils during objectively described fruit maturation.  
*Eur. Food Res. Technol.*, 2006, 223, 117-124.  
 Olive oils (Arbequina and Picual cultivars).  
 Apigenin, Luteolin, Other phenolic compounds.
- 306. Zafrilla, P., Ferreres, F., and Tomas-Barberan, F.A.**  
 Effect of processing and storage on the antioxidant ellagic acid derivatives and flavonoids of red raspberry (*Rubus idaeus*) jams.  
*J. Agric. Food Chem.*, 2001, 49(8), 3651-3655.  
 Raspberries raw and Jam.  
 Quercetin, Kaempferol, Ellagic acid.
- 307. Zheng, W. and Wang, S.Y.**  
 Oxygen radical absorbing capacity of phenolics in blueberries, cranberries, chokeberries, and lingonberries.  
*J. Agric. Food Chem.*, 2003, 51, 502-509.

Blueberries, Cranberries, Chokeberries, Lingonberries.  
Kaempferol, Myricetin, Quercetin, Cyanidin, Malvinidin, Peonidin, Petunidin,  
Chlorogenic acid, Vanillic acid, Caffeic acid, p-Coumaric acid, Total phenols,  
Total anthocyanins, ORAC

**308. Zheng, W. and Wang, S.Y.**

Antioxidant activity and phenolic compounds in selected herbs.

*J. Agric. Food Chem.*, 2001, 49(11), 5165-5170.

Garden Sage, Marjoram-hard, sweet, Mexican Oregano, Garden Thyme,  
Rosemary.

Luteolin, Apigenin, Naringin (naringenin-5-rhamnosidoglucoside), Rutin,  
Quercetin-3-O-rhamnosyl-(1-2)-rhamnosyl-(1-6)-glucoside, Kaempferol-3-O-  
rhamnosyl-(1-2)-rhamnosyl-(1-6)-glucoside, Vanillic acid, Caffeic acid,  
Rosmarinic acid, Hispidulin, Cirsimaritin, Carnosic acid, Rosmanol, Total  
phenolics .