

**Table S1a.** Spearman correlation coefficients and significance level ( $p \leq 0.05$  and  $p \leq 0.01$ ).

|                                    | TP (Folin-Chiocalteus' assay) | CUPRAC  | FRAP    | ORAC    | DPPH·   | ABTS·+  | α-amylase | α-glucosidase | pancreatic lipase | Total anthocyanins | Total hydroxybenzoic acids | Total hydroxycinnamic acids | Total dihydrochalcones | Total flavan-3-ols | Polymeric proanthocyanidins | Total flavonols (UPLC-PDA) |
|------------------------------------|-------------------------------|---------|---------|---------|---------|---------|-----------|---------------|-------------------|--------------------|----------------------------|-----------------------------|------------------------|--------------------|-----------------------------|----------------------------|
| <b>CUPRAC</b>                      | 0.9670                        |         |         |         |         |         |           |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>FRAP</b>                        | 0.8161                        | 0.6800  |         |         |         |         |           |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>ORAC</b>                        | 0.3717                        | 0.4232  | 0.4734  |         |         |         |           |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>DPPH·</b>                       | 0.6908                        | 0.6052  | 0.9293  | 0.6139  |         |         |           |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>ABTS·+</b>                      | 0.8181                        | 0.6931  | 0.9508  | 0.2653  | 0.8982  |         |           |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>α-amylase</b>                   | -0.9569                       | -0.9112 | -0.7984 | -0.4827 | -0.6316 | -0.7141 |           |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>α-glucosidase</b>               | -0.7823                       | -0.8338 | -0.7135 | -0.6766 | -0.8345 | -0.7226 | 0.6868    |               |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>pancreatic lipase</b>           | 0.9359                        | 0.9890  | 0.6179  | 0.4881  | 0.5432  | 0.5981  | -0.9127   | -0.8099       |                   |                    |                            |                             |                        |                    |                             |                            |
| <b>Total anthocyanins</b>          | 0.5877                        | 0.6952  | 0.0733  | -0.2265 | -0.0052 | 0.2567  | -0.4294   | -0.3987       | 0.6708            |                    |                            |                             |                        |                    |                             |                            |
| <b>Total hydroxybenzoic acids</b>  | 0.3345                        | 0.1649  | 0.7572  | 0.1382  | 0.8091  | 0.8133  | -0.2228   | -0.4244       | 0.0477            | -0.2205            |                            |                             |                        |                    |                             |                            |
| <b>Total hydroxycinnamic acids</b> | 0.2884                        | 0.2737  | 0.4188  | -0.0286 | 0.6017  | 0.6338  | -0.0294   | -0.5655       | 0.1531            | 0.2720             | 0.7261                     |                             |                        |                    |                             |                            |
| <b>Total dihydrochalcones</b>      | -0.4607                       | -0.3020 | -0.8818 | -0.5573 | -0.9059 | -0.7797 | 0.4818    | 0.5408        | -0.2463           | 0.3783             | -0.8557                    | -0.3899                     |                        |                    |                             |                            |
| <b>Total flavan-3-ols</b>          | 0.3754                        | 0.2096  | 0.7609  | 0.0889  | 0.8028  | 0.8399  | -0.2450   | -0.4416       | 0.0861            | -0.1363            | 0.9958                     | 0.7625                      | -0.8220                |                    |                             |                            |
| <b>Polymeric proanthocyanidins</b> | 0.3038                        | 0.1331  | 0.7548  | 0.1927  | 0.8162  | 0.7883  | -0.2101   | -0.4164       | 0.0231            | -0.2914            | 0.9964                     | 0.6887                      | -0.8843                | 0.9846             |                             |                            |
| <b>Total flavonols</b>             | 0.2596                        | 0.2657  | -0.1854 | -0.6141 | -0.4714 | -0.0819 | -0.2412   | 0.2792        | 0.2649            | 0.6870             | -0.4580                    | -0.3009                     | 0.5735                 | -0.5183            | 0.3905                      |                            |

| <b>Total polyphenols<br/>(UPLC-PDA)</b> | 0.5741  | 0.4273  | 0.7698  | -0.0790 | 0.7380  | 0.9125  | -0.4007 | -0.4919 | 0.2939  | 0.2189  | 0.8913  | 0.7891  | -0.6545 | 0.9278 | 0.8520  | 0.051 | -     | 4 |       |  |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|-------|-------|---|-------|--|
| <b>Fructose</b>                         | 0.6428  | 0.5760  | 0.3264  | -0.4350 | 0.0384  | 0.4466  | -0.5720 | -0.1023 | 0.5230  | 0.7319  | 0.0268  | 0.0612  | 0.1033  | 0.1007 | -0.0405 | 0.854 | 0.439 | 4 | 1     |  |
| <b>Sorbitol</b>                         | -0.0995 | -0.3335 | 0.2461  | -0.2429 | 0.0031  | 0.1317  | -0.0442 | 0.4962  | -0.3609 | -0.5490 | 0.3144  | -0.3445 | -0.3743 | 0.2837 | 0.3338  | 0.078 | 0.188 | 2 | 4     |  |
| <b>Glucose</b>                          | 0.1274  | -0.0366 | 0.4943  | -0.2617 | 0.5320  | 0.6511  | 0.0480  | -0.1646 | -0.1782 | -0.1139 | 0.9115  | 0.7832  | -0.5745 | 0.9278 | 0.8857  | 0.255 | 0.883 | 5 | 8     |  |
| <b>Sucrose</b>                          | 0.1251  | 0.2848  | -0.3806 | -0.4614 | -0.3699 | -0.1482 | 0.0592  | -0.0783 | 0.2693  | 0.8727  | -0.4277 | 0.2333  | 0.7081  | -      | -0.4955 | 0.620 | -     | 3 | 0.045 |  |
| <b>Total sugars</b>                     | 0.6326  | 0.5386  | 0.3965  | -0.4743 | 0.1277  | 0.5429  | -0.5310 | -0.1214 | 0.4612  | 0.6811  | 0.1915  | 0.2043  | -0.0001 | 0.2657 | 0.1219  | 0.774 | 0.582 | 7 | 6     |  |
| <b>Oxalic acid</b>                      | 0.4779  | 0.2853  | 0.8500  | 0.1224  | 0.8202  | 0.8870  | -0.3930 | -0.4278 | 0.1716  | -0.1389 | 0.9727  | 0.6258  | -0.8723 | 0.9750 | 0.9639  | 0.295 | 0.921 | 0 | 1     |  |
| <b>Citric acid</b>                      | 0.3172  | 0.2921  | 0.2772  | 0.5996  | 0.1155  | -0.0065 | -0.5763 | -0.1014 | 0.3954  | -0.2116 | -0.2755 | -0.7141 | -0.2366 | -      | -0.2284 | 0.028 | -     | 9 | 0.367 |  |
| <b>Isocitric acid</b>                   | -0.0355 | -0.0213 | 0.0769  | -0.2699 | 0.2902  | 0.3336  | 0.3103  | -0.2822 | -0.1371 | 0.2163  | 0.5474  | 0.9329  | -0.1107 | 0.5842 | 0.5075  | 0.257 | 0.599 | 5 | 8     |  |
| <b>Malic acid</b>                       | 0.2057  | 0.2814  | 0.2431  | 0.9496  | 0.3490  | -0.0095 | -0.3802 | -0.4572 | 0.3842  | -0.2874 | -0.1422 | -0.3229 | -0.3430 | -      | -0.0791 | 0.510 | -     | 8 | 1     |  |
| <b>Quinic acid</b>                      | 0.6540  | 0.5645  | 0.7962  | 0.1304  | 0.8412  | 0.9325  | -0.4648 | -0.7090 | 0.4458  | 0.2988  | 0.8562  | 0.8696  | -0.6687 | 0.8916 | 0.8211  | 0.171 | -     | 9 | 2     |  |
| <b>Shikimic acid</b>                    | 0.1553  | 0.2345  | 0.1676  | 0.9083  | 0.2512  | -0.0968 | -0.3507 | -0.3693 | 0.3482  | -0.2982 | -0.2358 | -0.4269 | -0.2653 | -      | -0.1714 | 0.450 | 0.459 | 1 | 6     |  |

|                     |        |        |         |         |         |         |         |         |        |        |         |         |         |         |         |       |       |
|---------------------|--------|--------|---------|---------|---------|---------|---------|---------|--------|--------|---------|---------|---------|---------|---------|-------|-------|
| Total organic acids | 0.4543 | 0.3796 | 0.6811  | 0.1389  | 0.8097  | 0.8267  | -0.2489 | -0.6555 | 0.2586 | 0.1473 | 0.8894  | 0.9436  | -0.6616 | 0.9130  | 0.8638  | 0.369 | 0.904 |
| Sugar/organic acids | 0.0475 | 0.0213 | -0.2872 | -0.5245 | -0.6126 | -0.3021 | -0.1514 | 0.5318  | 0.0610 | 0.3320 | -0.5842 | -0.6639 | 0.5482  | -0.5507 | -0.6138 | 0.897 | 0.316 |

**Table S1b.** Spearman correlation coefficients and significance level ( $p \leq 0.05$  and  $p \leq 0.01$ ).

|                            | Fructose      | Sorbitol | Glucose | Sucrose | Total sugars | Oxalic acid | Citric acid    | Isocitric acid | Malic acid    | Quinic acid   | Shikimic acid | Total organic |
|----------------------------|---------------|----------|---------|---------|--------------|-------------|----------------|----------------|---------------|---------------|---------------|---------------|
| <b>Sorbitol</b>            | 0.1666        |          |         |         |              |             |                |                |               |               |               |               |
| <b>Glucose</b>             | 0.1312        | 0.3047   |         |         |              |             |                |                |               |               |               |               |
| <b>Sucrose</b>             | 0.4658        | -0.6711  | -0.1801 |         |              |             |                |                |               |               |               |               |
| <b>Total sugars</b>        | <b>0.9827</b> | 0.2154   | 0.3122  | 0.4181  |              |             |                |                |               |               |               |               |
| <b>Oxalic acid</b>         | 0.2111        | 0.4212   | 0.8645  | -0.4302 | 0.3586       |             |                |                |               |               |               |               |
| <b>Citric acid</b>         | 0.0107        | 0.3065   | -0.5926 | -0.4942 | -0.1071      | -0.1348     |                |                |               |               |               |               |
| <b>Isocitric acid</b>      | -0.0518       | -0.3854  | 0.7275  | 0.3555  | 0.0891       | 0.4035      | <b>-0.9112</b> |                |               |               |               |               |
| <b>Malic acid</b>          | -0.4859       | -0.2048  | -0.5228 | -0.4563 | -0.5706      | -0.1451     | 0.7377         | -0.5053        |               |               |               |               |
| <b>Quinic acid</b>         | 0.3321        | -0.0649  | 0.7883  | 0.0243  | 0.4611       | 0.8590      | -0.3474        | 0.6505         | -0.1812       |               |               |               |
| <b>Shikimic acid</b>       | -0.4764       | -0.1728  | -0.6029 | -0.4482 | -0.5760      | -0.2290     | 0.7818         | -0.5887        | <b>0.9935</b> | -0.2842       |               |               |
| <b>Total organic acids</b> | 0.1020        | -0.1255  | 0.8430  | -0.0264 | 0.2518       | 0.8321      | -0.4832        | 0.7792         | -0.1776       | <b>0.9644</b> | -0.2876       |               |
| <b>Sugar/organic acids</b> | 0.6526        | 0.3501   | -0.4399 | 0.2907  | 0.5464       | -0.4079     | 0.3188         | -0.6007        | -0.3248       | -0.4837       | -0.2325       | -0.6681       |

**Table S2.** Quantification of phenolic compounds by UPLC-PDA method (mg/100 g fw).

| Code                        | Compound                               | R <sub>t</sub> | λ <sub>max</sub> | MS [M-H] <sup>-</sup> | MS/MS [M-H] <sup>-</sup>   | Smoothie composition (mg/100 g fw) |             |             |             |             |
|-----------------------------|--|----------------|------------------|-----------------------|----------------------------|------------------------------------|-------------|-------------|-------------|-------------|
|                             |  | (min)          | (nm)             | (m/z)*                | (m/z)                      | Au/Md                              | Au/Md+Cs    | Au/Md+Mc    | Au/Md+As    | Au/Md+Dk    |
| <b>Anthocyanins</b>         |  |                |                  |                       |                            |                                    |             |             |             |             |
| A1                          | Delphinidin-3,5-O-diglucoside          | 3.040          | 518              | 627.2785 <sup>+</sup> | 465.1909/303.1100          | nd                                 | 0.35±0.02a  | nd          | nd          | nd          |
| A2                          | Delphinidin-3-O-galactoside            | 3.664          | 522              | 465.1909 <sup>+</sup> | 303.1100                   | nd                                 | nd          | 0.44±0.03a  | nd          | nd          |
| A3                          | Delphinidin-3-O-glucoside              | 3.856          | 515              | 465.1953 <sup>+</sup> | 303.1100                   | nd                                 | nd          | 8.03±0.22a  | nd          | nd          |
| A4                          | Cyanidin-3-O-galactoside               | 4.135          | 515              | 449.1959 <sup>+</sup> | 287.1116                   | 1.25±0.05c                         | 1.79±0.11b  | 3.16±0.11a  | 1.04±0.11d  | 1.23±0.10cd |
| A5                          | Cyanidin-3-O-glucoside                 | 4.397          | 520              | 449.1959 <sup>+</sup> | 287.1116                   | nd                                 | nd          | 2.34±0.15b  | 2.79±0.14a  | nd          |
| A6                          | Cyanidin-3-O-arabinoside               | 4.629          | 515              | 419.1797 <sup>+</sup> | 287.1116                   | 0.22±0.02a                         | nd          | nd          | 0.04±0.00b  | 0.06±0.01c  |
| A7                          | Petunidin-3-O-glucoside                | 4.648          | 525              | 479.2150 <sup>+</sup> | 317.1295                   | nd                                 | 0.03±0.00a  | 0.65±0.06b  | nd          | nd          |
| A8                          | Peonidin-3-O-glucoside                 | 5.156          | 525              | 463.2164 <sup>+</sup> | 301.1330                   | nd                                 | nd          | 0.03±0.01a  | nd          | nd          |
| A9                          | Malvidin-3-O-glucoside                 | 5.391          | 519              | 493.2339 <sup>+</sup> | 331.1495                   | nd                                 | nd          | 10.47±0.44a | nd          | nd          |
| Total                       |  |                |                  |                       |                            | 1.47±0.03d                         | 2.17±0.07c  | 25.12±0.18a | 3.87±0.05b  | 1.29±0.06e  |
| <b>Hydroxybenzoic acids</b> |  |                |                  |                       |                            |                                    |             |             |             |             |
| B1                          | Gallic acid glucoside I                | 1.156          | 280              | 331.1266              | 271.1605/169.1417          | 3.91±0.04b                         | 3.34±0.12d  | 3.75±0.06c  | 4.71±0.11a  | 3.25±0.10d  |
| B2                          | Galloyl glucoside I                    | 1.274          | 277              | 331.1334              | 169.0417                   | 7.84±0.11b                         | 6.69±0.21c  | 7.51±0.24b  | 9.44±0.42a  | 6.52±0.15c  |
| B3                          | Gallic acid glucoside II               | 1.366          | 270              | 331.1334              | 271.1990/169.1417          | 1.68±0.12ab                        | 1.62±0.09ab | 1.71±0.02a  | 1.64±0.03b  | 1.80±0.10b  |
| B4                          | 3-O-Galloylquinic acid<br>(Theogallin) | 1.551          | 273              | 343.0742              | 191.1410                   | 73.86±1.22a                        | 66.75±1.03c | 69.94±0.42b | 73.53±0.34a | 66.42±1.23c |
| B5                          | Galloyl glucoside III                  | 1.627          | 273              | 331.0639              | 169.0117                   | nd                                 | nd          | nd          | nd          | 2.01±0.22a  |
| B6                          | Gallic acid 4-O-β-D-glucopyranoside    | 2.080          | 320              | 331.1334              | 169.0417                   | 0.10±0.00a                         | 0.41±0.06b  | 0.10±0.01ac | nd          | 0.08±0.01c  |
| B7                          | Castalagin                             | 2.084          | 280              | 933.1019              | 785.1813/481.0917/301.1057 | nd                                 | nd          | nd          | 4.26±0.42a  | nd          |
| B8                          | Galloyl shikimic acid                  | 2.314          | 272              | 325.0878              | 169.0417/125.4180          | 2.74±0.11b                         | 2.33±0.08c  | 2.73±0.12b  | 3.37±0.11a  | 2.55±0.17bc |
| B9                          | Casuarin                               | 2.420          | 374              | 783.1445              | 481.0421/301.0667          | nd                                 | nd          | nd          | 1.69±0.08a  | nd          |

|                       |                              |       |     |           |                            |             |             |             |              |             |
|-----------------------|------------------------------|-------|-----|-----------|----------------------------|-------------|-------------|-------------|--------------|-------------|
| B10                   | Digalloylquinic acid I       | 2.755 | 273 | 495.1837  | 343.1255/191.3072          | 1.15±0.11a  | 0.99±0.05a  | 0.23±0.01b  | 0.12±0.01c   | 0.26±0.04b  |
| B11                   | Ellagitannin II              | 2.829 | 270 | 933.1114  | 781.0445/633.0131/301.1057 | nd          | nd          | nd          | 15.28±0.22a  | nd          |
| B12                   | Quinic acid 3,5-di-O-gallate | 2.950 | 273 | 495.1843  | 343.0666/325.0878/191.3072 | nd          | nd          | 0.31±0.05a  | nd           | nd          |
| B13                   | Ellagitannin III             | 3.035 | 275 | 783.0645  | 481.0186/301.1021          | nd          | nd          | 0.11±0.02a  | nd           | nd          |
| B14                   | Digalloylquinic acid II      | 3.210 | 276 | 495.0435  | 343.1158/191.3100          | nd          | nd          | nd          | 2.26±0.11a   | nd          |
| B15                   | Ellagitannin IV              | 3.331 | 280 | 783.0759  | 481.0917/301.0667          | nd          | nd          | nd          | 0.71±0.12a   | nd          |
| B16                   | Nilocitin                    | 3.653 | 270 | 481.0938  | 301.0667/257.1438          | nd          | nd          | nd          | 0.41±0.05a   | nd          |
| B17                   | Digalloyl shikimic acid I    | 4.129 | 278 | 477.0493  | 325.0808/169.0417          | 2.61±0.34ab | 2.92±0.11a  | 0.80±0.09d  | 1.72±0.10c   | 2.46±0.06b  |
| B18                   | Casuarinin                   | 4.391 | 278 | 935.0146  | 765.1799/545.1230          | nd          | nd          | nd          | 0.28±0.04a   | nd          |
| B19                   | Digalloyl shikimic acid II   | 4.618 | 275 | 477.0493  | 325.0808/169.0417          | 3.02±0.22a  | 3.39±0.43a  | nd          | nd           | 3.12±0.21a  |
| B20                   | Gallotannin derivative       | 4.869 | 278 | 1109.1115 | 972.1873/635.1085/301.1021 | nd          | 0.43±0.03a  | nd          | nd           | nd          |
| B21                   | Salicylic acid               | 5.037 | 320 | 136.1212  |                            | nd          | nd          | nd          | nd           | 0.08±0.00a  |
| B22                   | Ellagic acid arabinoside     | 5.703 | 359 | 433.0224  | 301.0631                   | 2.91±0.42b  | nd          | 4.81±0.44a  | 0.92±0.13c   | 3.65±0.33b  |
| B23                   | Ellagic acid xyloside        | 5.885 | 361 | 433.0735  | 301.0631                   | nd          | nd          | nd          | 0.88±0.11a   | 0.74±0.11a  |
| B24                   | Ellagic acid                 | 6.028 | 366 | 300.0631  |                            | nd          | nd          | nd          | 4.30±0.31a   | 0.81±0.12b  |
| Total                 |                              |       |     |           |                            | 99.84±0.31b | 88.87±0.24e | 91.99±0.21d | 125.51±0.34a | 93.74±0.13c |
| Hydroxycinnamic acids |                              |       |     |           |                            |             |             |             |              |             |
| C1                    | Neochlorogenic acid          | 3.489 | 317 | 353.1287  | 191.3100/136.0212          | 0.35±0.05b  | 0.22±0.00c  | 0.48±0.04a  | 0.46±0.02a   | 0.32±0.01b  |
| C2                    | Chlorogenic acid             | 3.723 | 323 | 353.0838  | 191.0534                   | 4.57±0.32a  | 4.28±0.30a  | 4.47±0.11a  | 4.43±0.22a   | 4.27±0.31a  |
| C3                    | Caffeic acid                 | 4.036 | 320 | 311.0807  | 179.1098                   | 0.24±0.04bc | 0.25±0.02b  | 0.29±0.02b  | 0.41±0.05a   | 0.24±0.02c  |
| C4                    | p-Coumaric acid              | 4.463 | 323 | 163.0349  |                            | 0.14±0.02b  | 0.18±0.01a  | 0.08±0.00d  | 0.10±0.01c   | 0.18±0.03ab |
| C5                    | p-Coumaroyloquinic acid      | 4.904 | 310 | 337.0912  | 163.1014                   | 0.77±0.13a  | 0.72±0.11a  | 0.70±0.10a  | 0.76±0.09a   | 0.76±0.04a  |
| Total                 |                              |       |     |           |                            | 6.07±0.13a  | 5.65±0.11b  | 6.02±0.06ab | 6.16±0.11a   | 5.77±0.22b  |
| Dihydrochalcones      |                              |       |     |           |                            |             |             |             |              |             |
| D1                    | Phloretin-2'-Oxyloglucoside  | 7.433 | 280 | 567.1703  | 273.0757                   | 1.79±0.03a  | 1.87±0.11a  | 1.84±0.11a  | 1.42±0.03c   | 1.71±0.01b  |

|                 |  |       |     |          |                   |              |              |              |              |              |
|-----------------|--|-------|-----|----------|-------------------|--------------|--------------|--------------|--------------|--------------|
| D2              | Phloretin-2'-O-glucoside<br>(Phloridzin) | 8.186 | 280 | 435.1332 | 273.0733          | 2.20±0.11a   | 2.17±0.22a   | 2.22±0.15a   | 2.05±0.11a   | 2.03±0.11a   |
| Total           |  |       |     |          |                   | 3.99±0.10a   | 4.04±0.12a   | 4.06±0.11a   | 3.47±0.08c   | 3.74±0.10b   |
| Flavan-3-ols    |  |       |     |          |                   |              |              |              |              |              |
| E1              | Procyanidin B1                           | 3.256 | 280 | 577.1293 | 289.0708          | 6.70±0.42c   | 8.60±0.32b   | 19.36±0.15a  | 2.20±0.04e   | 3.08±0.02d   |
| E2              | Procyanidin B3                           | 3.562 | 277 | 577.1055 | 289.2014/245.2391 | 0.06±0.00d   | 0.13±0.00c   | 0.38±0.01b   | 0.90±0.11a   | 0.06±0.00d   |
| E3              | (+)-Catechin                             | 3.669 | 280 | 289.0673 | 245.0780          | 10.96±0.24c  | 10.79±0.11c  | 11.54±0.08b  | 13.03±0.54a  | 10.14±0.21d  |
| E4              | (-)Epicatechin                           | 4.143 | 280 | 289.0673 | 245.0780          | 6.64±0.22ab  | 6.83±0.11a   | 1.05±0.06d   | 6.28±0.16bc  | 6.10±0.11c   |
| E5              | Procyanidin B2                           | 4.631 | 280 | 577.1293 | 289.0708          | 0.91±0.04d   | 1.18±0.01b   | 3.47±0.14a   | 1.12±0.03c   | 1.14±0.04bc  |
| E6              | Procyanidin C1                           | 4.956 | 280 | 866.1908 | 577.1188/289.0708 | 0.44±0.01d   | 0.49±0.00c   | 0.71±0.04a   | 0.44±0.00d   | 0.56±0.03b   |
| Total           |  |       |     |          |                   | 434.33±3.12b | 412.44±2.55d | 423.64±5.44c | 487.37±4.13a | 419.63±4.45c |
| PP <sup>#</sup> | Polymeric proanthocyanidins              |       |     |          |                   | 408.62±9.31b | 384.42±5.42c | 387.13±6.81c | 463.40±3.12a | 398.55±4.12b |
| DP              | Degree of polymerisation                 |       |     |          |                   | 4.61         | 4.58         | 4.67         | 4.95         | 4.81         |
| Flavonols       |  |       |     |          |                   |              |              |              |              |              |
| F1              | Kaempferol-3-O-sophoroside-7-O-glucoside | 3.546 | 346 | 771.0181 | 609.0240/285.1257 | nd           | 0.34±0.02a   | nd           | nd           | nd           |
| F2              | Kaempferol-3,7-O-diglucoside             | 4.636 | 345 | 609.0341 | 447.0543/285.1292 | nd           | 0.12±0.00a   | nd           | nd           | nd           |
| F3              | Isorhamnetin-3,7-O-digalactoside         | 4.747 | 350 | 639.0883 | 447.0327/315.0605 | nd           | 0.75±0.12a   | nd           | nd           | nd           |
| F4              | Quercetin derivative I                   | 4.766 | 359 | 633.0900 | 463.0633/301.0667 | 0.36±0.03b   | nd           | 0.41±0.02a   | 0.46±0.06a   | 0.30±0.02c   |
| F5              | Myricetin galactoside-gallate            | 4.995 | 360 | 631.1107 | 479.1073/317.1114 | nd           | nd           | 1.35±0.12a   | nd           | nd           |
| F6              | Quercetin-3,7-O-diglucoside              | 5.356 | 352 | 625.1044 | 463.0333/301.0924 | nd           | 1.80±0.11a   | nd           | 0.10±0.00b   | nd           |
| F7              | Myricetin-3-O-galactoside                | 5.460 | 356 | 479.0610 | 317.1114          | 0.11±0.01e   | 0.25±0.02b   | 9.32±0.23a   | 0.16±0.02c   | 0.13±0.00d   |
| F8              | Myricetin-3-O-glucoside                  | 5.534 | 356 | 479.0162 | 317.1114          | 0.10±0.00c   | 0.86±0.03a   | 0.48±0.05b   | nd           | 0.04±0.00d   |
| F9              | Isorhamnetin-3,7-O-diglucoside           | 5.709 | 343 | 639.1035 | 477.1314/315.0948 | nd           | 1.66±0.12a   | nd           | nd           | nd           |
| F10             | Quercetin galloylhexose                  | 5.816 | 360 | 615.1291 | 463.0950/301.1092 | 0.26±0.01c   | 0.30±0.03b   | 0.51±0.15a   | nd           | 0.31±0.02b   |
| F11             | Quercetin-3-O-rutinoside                 | 5.957 | 359 | 609.1419 | 301.0319          | nd           | nd           | nd           | nd           | 0.86±0.04a   |
| F12             | Kaempferol-3-O-sophoroside               | 5.978 | 358 | 609.0240 | 285.1226          | nd           | 9.57±0.16a   | nd           | nd           | nd           |

|   |                             |       |     |          |                   |                     |                     |                     |                     |                     |
|---|-----------------------------|-------|-----|----------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| F13   | Myricetin-3-O-arabinoside   | 6.027 | 364 | 449.0362 | 317.0678          | nd                  | nd                  | 1.06±0.02a          | nd                  | nd                  |
| F14   | Quercetin derivative II     | 6.053 | 366 | 633.1003 | 463.0861/301.1021 | 0.21±0.00a          | nd                  | nd                  | nd                  | nd                  |
| F15   | Myricetin-3-O-xyloside      | 6.161 | 350 | 449.1883 | 317.1114          | 0.30±0.02a          | 0.32±0.02a          | 0.31±0.01a          | 0.24±0.02b          | 0.24±0.01b          |
| F16   | Myricerin-3-O-rhamnoside    | 6.239 | 347 | 463.0861 | 317.1114          | 0.23±0.01b          | 0.12±0.01d          | 5.78±0.15a          | 0.18±0.00c          | 0.12±0.01d          |
| F17   | Quercetin-3-O-galactoside   | 6.345 | 348 | 463.0861 | 301.0994          | 0.92±0.06c          | 0.88±0.04c          | 1.34±0.01b          | 1.65±0.11a          | 0.93±0.03c          |
| F18   | Quercetin-3-O-glucoside     | 6.494 | 350 | 463.1774 | 301.1447          | 0.26±0.02c          | 0.49±0.02a          | 0.40±0.02b          | 0.45±0.04ab         | 0.23±0.00d          |
| F19   | Kaempferol-3-O-galactoside  | 6.640 | 347 | 447.0629 | 285.1326          | nd                  | nd                  | nd                  | 0.55±0.04a          | nd                  |
| F20   | Isorhamnetin-3-O-rutinoside | 6.697 | 352 | 623.1223 | 315.0871          | nd                  | 1.01±0.06           | nd                  | nd                  | nd                  |
| F21   | Quercetin-3-O-arabinoside   | 6.765 | 350 | 433.0160 | 301.1421          | 0.11±0.00c          | 0.14±0.01b          | 0.17±0.02b          | 0.27±0.04d          | 0.22±0.02c          |
| F22   | Quercetin-pentoside         | 6.957 | 360 | 433.0565 | 301.0959          | nd                  | nd                  | nd                  | 0.50±0.05a          | 0.11±0.00           |
| F23   | Quercetin-3-O-xyloside      | 7.063 | 350 | 433.0160 | 301.1421          | 1.31±0.12a          | 1.37±0.06a          | 1.35±0.07a          | 1.43±0.05a          | 1.29±0.15a          |
| F24   | Quercetin-3-O-rhamnoside    | 7.325 | 348 | 447.0148 | 301.1447          | 1.73±0.11c          | 2.54±0.20a          | 2.19±0.13b          | 1.52±0.21d          | 1.77±0.13a          |
| F25   | Isorhanetin-3-O-glucoside   | 7.539 | 352 | 477.1314 | 315.0871          | nd                  | 0.07±0.00a          | nd                  | nd                  | nd                  |
| F26   | Kaempferol-hexoside I       | 7.568 | 350 | 447.1543 | 285.1326          | nd                  | nd                  | nd                  | 0.15±0.01a          | nd                  |
| F27   | Myricetin                   | 7.683 | 367 | 317.1114 |                   | nd                  | nd                  | 0.36±0.03a          | nd                  | nd                  |
| F28   | Quercetin                   | 8.774 | 360 | 301.1065 |                   | nd                  | nd                  | nd                  | 0.12±0.01a          | nd                  |
| F29   | Kaempferol                  | 9.435 | 360 | 285.1706 |                   | nd                  | nd                  | nd                  | 1.80±0.12a          | nd                  |
| Total   |                             |       |     |          |                   | 5.90±0.12e          | 22.59±0.14b         | 25.03±0.22a         | 9.58±0.13c          | 6.55±0.09d          |
| <b>Total phenolic compounds</b> (including polymeric proanthocyanidins) |                             |       |     |          |                   | <b>551.60±4.51c</b> | <b>535.75±3.11d</b> | <b>575.86±1.66b</b> | <b>635.96±5.21a</b> | <b>530.72±6.11d</b> |

Data are given as mean ± standard deviation ( $n = 3$ ). nd: not detected. Mean values within a line with different letters (a-e) are significantly different (homogenous groups) at  $p \leq 0.05$ . \* [M+H]<sup>+</sup> ( $m/z$ ) for anthocyanins were obtained in the positive ion mode. <sup>#</sup> Quantitative data of polymeric proanthocyanidins were obtained using the phloroglucinol method.