

Table S1. Quantitative profile of individual compounds in the *S. aucuparia* fruits (mg/g fruits dw).

Sample	NCHA	CHA	CCHA	1-CHA	diCAQ	5-FQA	PC1	RT	SQ	diHQ	HY	IQ
1	2.2413 ± 0.0117 ^{EF}	1.8572 ± 0.0107 ^A	0.0516 ± 0.0020 ^{CD}	0.1071 ± 0.0010 ^{BCD}	0.1798 ± 0.0013 ^{DEF}	0.0250 ± 0.0001 ^G	0.0427 ± 0.0018 ^{BC}	0.0145 ± 0.0004 ^B	0.2625 ± 0.0016 ^D	0.1099 ± 0.0005 ^G	0.0492 ± 0.0005 ^B	0.0735 ± 0.0024 ^{FG}
2	3.7256 ± 0.0448 ^J	2.8055 ± 0.0330 ^C	0.0945 ± 0.0029 ^I	0.1184 ± 0.0017 ^D	0.1106 ± 0.0013 ^B	0.0342 ± 0.0007 ^J	0.0546 ± 0.0003 ^{CDE}	0.0095 ± 0.0001 ^A	0.4904 ± 0.0069 ^H	0.1066 ± 0.0005 ^G	0.0637 ± 0.0026 ^D	0.0505 ± 0.0023 ^{CD}
3	1.8836 ± 0.0245 ^C	3.2194 ± 0.0487 ^E	0.0456 ± 0.0014 ^{BC}	0.1873 ± 0.0017 ^H	0.1813 ± 0.0013 ^{EF}	0.0229 ± 0.0009 ^{EF}	0.0477 ± 0.0005 ^{CD}	0.0894 ± 0.0023 ^K	0.1528 ± 0.0036 ^B	0.1631 ± 0.0033 ^I	0.1231 ± 0.0042 ^G	0.1228 ± 0.0018 ^J
4	1.8660 ± 0.0033 ^C	3.8219 ± 0.0097 ^F	0.0403 ± 0.0004 ^{AB}	0.1675 ± 0.0063 ^{FG}	0.1765 ± 0.0008 ^{DE}	0.0249 ± 0.0007 ^G	0.0689 ± 0.0020 ^{EF}	0.1624 ± 0.0021 ^O	0.7775 ± 0.0009 ^N	0.2265 ± 0.0019 ^L	0.2327 ± 0.0014 ^K	0.1099 ± 0.0013 ^I
5	2.1224 ± 0.0232 ^D	4.0293 ± 0.0383 ^G	0.0690 ± 0.0006 ^{FG}	0.1680 ± 0.0040 ^{FG}	0.1882 ± 0.0008 ^F	0.0229 ± 0.0004 ^{EF}	0.0461 ± 0.0011 ^{CD}	0.0704 ± 0.0006 ^I	0.2235 ± 0.0031 ^C	0.0617 ± 0.0013 ^B	0.1758 ± 0.0016 ^J	0.0840 ± 0.0007 ^H
6	1.3977 ± 0.0240 ^A	2.7384 ± 0.0436 ^C	0.0373 ± 0.0009 ^A	0.1109 ± 0.0021 ^{CD}	0.2558 ± 0.0039 ^I	< LOQ ^A	0.0423 ± 0.0007 ^{BC}	0.0542 ± 0.0006 ^H	0.3526 ± 0.0047 ^E	0.2081 ± 0.0038 ^K	0.0702 ± 0.0003 ^E	0.0794 ± 0.0006 ^H
7	3.5135 ± 0.0641 ^I	2.7591 ± 0.0508 ^C	0.1425 ± 0.0025 ^K	0.0998 ± 0.0043 ^{BC}	0.0233 ± 0.0004 ^A	0.0233 ± 0.0004 ^F	0.0610 ± 0.0010 ^{DEF}	0.1414 ± 0.0020 ^N	0.5057 ± 0.0079 ^{HI}	0.1904 ± 0.0023 ^J	0.1516 ± 0.0026 ^H	0.1350 ± 0.0039 ^K
8	2.1450 ± 0.0172 ^{DE}	4.7633 ± 0.0348 ^I	0.0776 ± 0.0020 ^H	0.2000 ± 0.0047 ^I	0.1718 ± 0.0012 ^D	0.0200 ± 0.0003 ^C	0.0460 ± 0.0021 ^{CD}	0.0127 ± 0.0005 ^{AB}	0.0630 ± 0.0008 ^A	< LOQ ^A	0.2445 ± 0.0022 ^L	0.0786 ± 0.0010 ^{GH}
9	2.2507 ± 0.0125 ^{EF}	5.4233 ± 0.0284 ^L	0.0656 ± 0.0001 ^{FG}	0.2291 ± 0.0005 ^K	0.2373 ± 0.0011 ^H	0.0337 ± 0.0003 ^J	0.0283 ± 0.0013 ^B	0.1130 ± 0.0005 ^M	0.7292 ± 0.0021 ^M	0.1575 ± 0.0010 ^I	0.3187 ± 0.0002 ^N	0.1328 ± 0.0009 ^K
10	2.2547 ± 0.0358 ^F	4.4551 ± 0.0613 ^H	0.0577 ± 0.0007 ^{DE}	0.2149 ± 0.0039 ^J	0.2756 ± 0.0036 ^{JK}	0.0306 ± 0.0003 ^I	< LOQ ^A	0.0237 ± 0.0005 ^D	0.2660 ± 0.0037 ^D	0.1064 ± 0.0022 ^G	0.0439 ± 0.0012 ^A	0.0301 ± 0.0011 ^B

11	3.5653 ± 0.0768 ^I	4.8771 ± 0.1126 ^I	0.1275 ± 0.0034 ^J	0.1418 ± 0.0050 ^E	0.2836 ± 0.0055 ^K	0.0318 ± 0.0004 ^I	0.0489 ± 0.0012 ^{CD}	0.0203 ± 0.0006 ^C	0.7105 ± 0.0184 ^L	0.0999 ± 0.0036 ^F	0.0654 ± 0.0010 ^{DE}	0.0187 ± 0.0006 ^A
12	2.0963 ± 0.0186 ^D	5.0332 ± 0.0460 ^J	0.0627 ± 0.0008 ^{EF}	0.1765 ± 0.0073 ^{GH}	0.2573 ± 0.0027 ^I	0.0251 ± 0.0002 ^G	0.0474 ± 0.0014 ^{CD}	0.0933 ± 0.0007 ^L	0.4250 ± 0.0024 ^G	0.0836 ± 0.0020 ^D	0.2795 ± 0.0017 ^M	0.1186 ± 0.0010 ^J
13	3.1189 ± 0.0839 ^H	4.4065 ± 0.1140 ^H	0.0997 ± 0.0048 ^I	0.1461 ± 0.0048 ^E	0.4274 ± 0.0076 ^O	0.0271 ± 0.0012 ^H	0.0959 ± 0.0020 ^G	0.0340 ± 0.0005 ^{EF}	0.3415 ± 0.0072 ^E	0.1452 ± 0.0022 ^H	0.0560 ± 0.0013 ^C	0.0447 ± 0.0011 ^C
14	2.2372 ± 0.0156 ^{EF}	3.0591 ± 0.0209 ^D	0.0837 ± 0.0014 ^H	0.1090 ± 0.0018 ^{BCD}	0.2305 ± 0.0009 ^H	< LOQ ^A	0.0436 ± 0.0008 ^{BC}	0.0318 ± 0.0003 ^E	0.4054 ± 0.0029 ^F	0.0916 ± 0.0012 ^E	0.1159 ± 0.0006 ^F	0.0719 ± 0.0004 ^F
15	1.5717 ± 0.0096 ^B	4.4021 ± 0.0216 ^H	0.0565 ± 0.0007 ^{DE}	0.1442 ± 0.0027 ^E	0.1608 ± 0.0009 ^C	< LOQ ^A	0.0409 ± 0.0009 ^{BC}	0.0855 ± 0.0004 ^J	0.3484 ± 0.0017 ^E	0.2412 ± 0.0005 ^M	0.0472 ± 0.0003 ^{AB}	0.0617 ± 0.0028 ^E
16	1.6726 ± 0.0049 ^B	2.4859 ± 0.0035 ^B	0.0498 ± 0.0021 ^C	0.0868 ± 0.0024 ^A	0.2177 ± 0.0005 ^G	< LOQ ^A	0.0478 ± 0.0012 ^{CD}	0.0532 ± 0.0005 ^H	0.1704 ± 0.0004 ^B	0.0689 ± 0.0007 ^C	0.0671 ± 0.0002 ^{DE}	0.0628 ± 0.0003 ^E
17	2.9579 ± 0.0165 ^G	5.2530 ± 0.0450 ^K	0.0937 ± 0.0003 ^I	0.1589 ± 0.0025 ^F	0.3564 ± 0.0015 ^N	0.0206 ± 0.0004 ^{CD}	0.0723 ± 0.0027 ^F	0.0428 ± 0.0006 ^G	0.6544 ± 0.0050 ^J	0.1494 ± 0.0007 ^H	0.1603 ± 0.0010 ^I	0.0659 ± 0.0004 ^E
18	3.0171 ± 0.0177 ^{GH}	5.4079 ± 0.0366 ^L	0.0989 ± 0.0003 ^I	0.1406 ± 0.0025 ^E	0.3090 ± 0.0031 ^L	0.0184 ± 0.0001 ^B	0.0461 ± 0.0004 ^{CD}	0.0228 ± 0.0006 ^{CD}	0.1606 ± 0.0020 ^B	0.0639 ± 0.0003 ^{BC}	0.0672 ± 0.0011 ^{DE}	0.0726 ± 0.0047 ^F
19	1.8835 ± 0.0140 ^C	3.3703 ± 0.0224 ^E	0.0695 ± 0.0003 ^G	0.0986 ± 0.0025 ^B	0.2739 ± 0.0010 ^J	< LOQ ^A	0.0449 ± 0.0011 ^{CD}	0.0371 ± 0.0006 ^F	0.6917 ± 0.0059 ^K	0.1617 ± 0.0036 ^I	0.1214 ± 0.0020 ^G	0.0507 ± 0.0018 ^D
20	3.8660 ± 0.0133 ^K	3.7559 ± 0.0102 ^F	0.1000 ± 0.0046 ^I	0.1406 ± 0.0025 ^E	0.3393 ± 0.0016 ^M	0.0216 ± 0.0005 ^{DE}	0.1136 ± 0.0230 ^H	0.0418 ± 0.0009 ^G	0.5120 ± 0.0024 ^I	0.1615 ± 0.0011 ^I	0.0478 ± 0.0012 ^{AB}	0.0323 ± 0.0008 ^B

Results are presented as means ± SD ($n = 3$). For each parameter, different superscript letters indicate significant differences ($p < 0.05$). LOQ, limit of quantification (HPLC analysis); NCHA, 3-*O*-caffeoylquinic acid; CHA, 5-*O*-caffeoylquinic acid; CCHA, 4-*O*-caffeoylquinic acid; 1-CHA, 1-*O*-caffeoylquinic acid; diCAQA, 3,5-*O*-dicaffeoylquinic acid; 5-FQA, 5-ferulquinic acid; PC1, procyanidin C1; RT, rutin; SQ, quercetin 3-*O*- β -sophoroside; diHQ, quercetin *O*-dihexoside; HY, hyperoside; IQ, isoquercitrin.

Table S2. Quantitative profile of groups of compounds in the *S. aucuparia* fruits (mg/g fruits dw).

Sample	TPC	TPH	THCA	TCHA	TCFA	TFL	TPA	TLPA
1	21.7545 ± 0.5879 ^F	5.2512 ± 0.0305 ^A	4.5931 ± 0.0258 ^A	4.4371 ± 0.0239 ^A	0.1561 ± 0.0025 ^B	0.6154 ± 0.0033 ^E	15.2069 ± 0.2777 ^G	0.0427 ± 0.0018 ^{AB}
2	24.9164 ± 0.3177 ^G	7.9579 ± 0.0961 ^G	7.1135 ± 0.0821 ^F	6.8546 ± 0.0807 ^F	0.2589 ± 0.0017 ^G	0.7898 ± 0.0144 ^H	16.5989 ± 0.3417 ^H	0.0546 ± 0.0003 ^{BCDE}
3	21.6538 ± 0.6730 ^F	6.4239 ± 0.0911 ^C	5.6686 ± 0.0771 ^B	5.5172 ± 0.0752 ^B	0.1514 ± 0.0032 ^B	0.7077 ± 0.0147 ^G	14.6099 ± 0.3001 ^G	0.0477 ± 0.0005 ^{BC}
4	20.1049 ± 0.6163 ^{DEF}	7.9872 ± 0.0120 ^G	6.2566 ± 0.0053 ^D	6.0721 ± 0.0075 ^C	0.1845 ± 0.0025 ^C	1.6616 ± 0.0057 ^P	11.8068 ± 0.3214 ^{EF}	0.0689 ± 0.0020 ^{EF}
5	17.7048 ± 0.5593 ^B	7.5495 ± 0.0686 ^F	6.7744 ± 0.0606 ^E	6.5769 ± 0.0603 ^{DE}	0.1975 ± 0.0006 ^{CD}	0.7290 ± 0.0082 ^G	10.6517 ± 0.3187 ^D	0.0461 ± 0.0011 ^{BC}
6	19.7577 ± 0.5849 ^{CDE}	5.5771 ± 0.0815 ^B	4.7319 ± 0.0714 ^A	4.5399 ± 0.0712 ^A	0.1919 ± 0.0019 ^C	0.8029 ± 0.0095 ^{HI}	12.4759 ± 0.5308 ^F	0.0423 ± 0.0007 ^{AB}
7	18.2406 ± 0.5160 ^{BCD}	8.3463 ± 0.1463 ^H	6.9302 ± 0.1247 ^{EF}	6.6878 ± 0.1193 ^{EF}	0.2424 ± 0.0066 ^F	1.3551 ± 0.0216 ^O	11.2045 ± 0.4356 ^{DE}	0.0610 ± 0.0010 ^{CDEF}
8	21.0177 ± 0.6390 ^{EF}	8.0147 ± 0.0662 ^G	7.5700 ± 0.0628 ^G	7.3577 ± 0.0598 ^{GH}	0.2123 ± 0.0050 ^{DE}	0.3988 ± 0.0016 ^A	12.1098 ± 0.1754 ^{EF}	0.0460 ± 0.0021 ^{BC}
9	25.5503 ± 1.0568 ^{GH}	10.4224 ± 0.0503 ^L	8.5211 ± 0.0445 ^H	8.2061 ± 0.0424 ^I	0.3150 ± 0.0035 ^I	1.8730 ± 0.0046 ^Q	15.4672 ± 0.5727 ^G	0.0283 ± 0.0013 ^A
10	20.2768 ± 0.4507 ^{EF}	8.0799 ± 0.1145 ^{GH}	7.5449 ± 0.1076 ^G	7.2580 ± 0.1034 ^G	0.2869 ± 0.0043 ^H	0.4701 ± 0.0078 ^B	12.0876 ± 0.1684 ^{EF}	0.0650 ± 0.0009 ^{DEF}
11	20.8344 ± 0.9489 ^{EF}	10.2145 ± 0.2280 ^L	9.2509 ± 0.2058 ^I	8.9953 ± 0.2030 ^J	0.2556 ± 0.0045 ^{FG}	0.9147 ± 0.0230 ^K	11.7833 ± 0.5039 ^{EF}	0.0489 ± 0.0012 ^{BCD}
12	17.8909 ± 0.4772 ^{BC}	9.1096 ± 0.0674 ^I	7.7832 ± 0.0610 ^G	7.6259 ± 0.0615 ^H	0.1573 ± 0.0009 ^B	1.2789 ± 0.0061 ^N	10.3279 ± 0.1735 ^{CD}	0.0474 ± 0.0014 ^{BC}
13	23.9440 ± 0.6200 ^G	9.2111 ± 0.2330 ^{IJ}	8.4524 ± 0.2182 ^H	8.1986 ± 0.2145 ^I	0.2538 ± 0.0042 ^{FG}	0.6628 ± 0.0128 ^F	15.2755 ± 0.4039 ^G	0.0959 ± 0.0020 ^G
14	16.9044 ± 0.5960 ^B	6.7977 ± 0.0464 ^D	5.9032 ± 0.0410 ^{BC}	5.7195 ± 0.0383 ^B	0.1837 ± 0.0050 ^C	0.8509 ± 0.0062 ^J	9.3154 ± 0.0990 ^C	0.0436 ± 0.0008 ^{AB}
15	18.2504 ± 0.5975 ^{BCD}	7.3153 ± 0.0372 ^{EF}	6.4904 ± 0.0327 ^D	6.3353 ± 0.0316 ^{CD}	0.1551 ± 0.0017 ^B	0.7840 ± 0.0050 ^H	12.2140 ± 0.3628 ^{EF}	0.0409 ± 0.0009 ^{AB}
16	12.0973 ± 0.2639 ^A	5.2319 ± 0.0153 ^A	4.6335 ± 0.0158 ^A	4.5129 ± 0.0101 ^A	0.1206 ± 0.0066 ^A	0.5506 ± 0.0010 ^D	6.9237 ± 0.1045 ^B	0.0478 ± 0.0012 ^{BC}
17	24.9024 ± 0.5718 ^G	10.3514 ± 0.0744 ^L	9.1031 ± 0.0661 ^I	8.8198 ± 0.0641 ^J	0.2833 ± 0.0021 ^H	1.1760 ± 0.0056 ^M	15.4490 ± 0.5509 ^G	0.0723 ± 0.0027 ^F

18	27.0718 ± 0.5877 ^H	9.7607 ± 0.0773 ^K	9.2005 ± 0.0684 ^I	8.9736 ± 0.0581 ^J	0.2269 ± 0.0107 ^E	0.5141 ± 0.0100 ^C	18.0127 ± 0.4146 ^I	0.0461 ± 0.0004 ^{BC}
19	12.3571 ± 0.3421 ^A	7.0648 ± 0.0330 ^{DE}	5.9573 ± 0.0295 ^C	5.6958 ± 0.0351 ^B	0.2615 ± 0.0082 ^G	1.0626 ± 0.0060 ^L	5.1216 ± 0.2020 ^A	0.0449 ± 0.0011 ^{BC}
20	29.7552 ± 0.5935 ^I	9.4390 ± 0.0157 ^J	8.4969 ± 0.0389 ^H	8.2018 ± 0.0322 ^I	0.2950 ± 0.0073 ^H	0.8286 ± 0.0027 ^{IJ}	19.4843 ± 0.3652 ^J	0.1136 ± 0.0230 ^H

Results are presented as means ± SD ($n = 3$). For each parameter, different superscript letters indicate significant differences ($p < 0.05$). TPC, total phenolic content in gallic acid equivalents (GAE) determined by Folin-Ciocalteu assay; TPH, total phenolic content determined by RP-HPLC-PDA; THCA, total content of hydroxycinnamic acid derivatives (TCHA+TCFA); TCHA, total content of mono- and dicaffeoylquinic acids isomers; TCFA, total content of phenolic acids derivatives other than TCHA; TFL, total content of flavonoids; TPA, total proanthocyanidin content in cyanidin chloride equivalents (CyE) determined by *n*-butanol/HCl assay; TLPA, total content of proanthocyanidin determined by RP-HPLC-PDA.