

**Table S1.** Mass spectral data of phenolic compounds identified in onion samples in negative ionization mode.

Rt	Compound	[M-H] <sup>-</sup> ( <i>m/z</i> )	MS <sup>2</sup> ion fragments ( <i>m/z</i> )
7.7	Protocatechuic acid-hexoside	315	153 (100%), 109 (4%)
9.5	Quercetin-tri- <i>O</i> -hexoside isomer	786	625 (100%), 463 (10%), 301 (2%)
9.9	Kaempferol-7- <i>O</i> -hexoside isomer	447	285 (100%), 284 (18%), 257 (4%)
9.9	Taxifolin- <i>O</i> -hexoside isomer	465	285 (100%), 241 (8%), 303 (5%)
9.9	Kaempferol-hexoside-rhamnoside-rhamnoside	739	447 (100%), 284 (4%), 285 (3%)
10.0	Kaempferol-3- <i>O</i> -hexoside-7- <i>O</i> -hexoside isomer	609	447 (100%), 285 (4%)
10.1	(Epi)catechin-3- <i>O</i> -hexoside isomer	451	289 (100%), 245 (10%), 205 (5%)
10.2	Isorhamnetin- <i>O</i> -hexoside- <i>O</i> -pentoside	609	315 (100%), 447 (11%)
10.3	Caffeic acid- <i>O</i> -hexoside	341	179 (100%)
10.5	Taxifolin- <i>O</i> -hexoside isomer	465	303 (100%), 285 (43%), 241 (3%)
10.6	(Epi)catechin-3- <i>O</i> -hexoside isomer	451	289 (100%), 245 (16%), 205 (6%)
10.6	Quercetin-3- <i>O</i> -hexoside-7- <i>O</i> -hexoside	625	463 (100%), 301 (14%)
10.7	Myricetin- <i>O</i> -hexoside- <i>O</i> -hexoside isomer	641	479 (100%), 317 (11%)
10.8	Taxifolin- <i>O</i> -hexoside isomer	465	303 (100%), 285 (45%), 241 (5%)
10.8	Sinapic acid- <i>O</i> -hexoside isomer	385	223 (100%), 208 (5%)
11.4	Taxifolin- <i>O</i> -hexoside isomer	465	303 (100%), 285 (4%), 241 (4%)
11.5	Ferulic acid- <i>O</i> -hexoside	355	193 (100%), 178 (65%)
11.5	Sinapic acid- <i>O</i> -hexoside isomer	385	223 (100%), 208 (29%)
11.6	Myricetin- <i>O</i> -hexoside- <i>O</i> -hexoside isomer	641	479 (100%), 317 (12%)
11.8	Quercetin-7- <i>O</i> -hexoside-4'- <i>O</i> -hexoside	625	463 (100%), 301 (5%)
12.2	Quercetin-tri- <i>O</i> -hexoside isomer	786	625 (100%), 301 (7%), 463 (2%)
12.3	Quercetin-3- <i>O</i> -hexoside-4'- <i>O</i> -hexoside	625	463 (100%), 301 (9%), 179 (2%)
12.4	Kaempferol-3- <i>O</i> -hexoside-7- <i>O</i> -hexoside isomer	609	447 (100%), 285 (66%)
12.5	Isorhamnetin-3- <i>O</i> -hexoside isomer	477	315 (100%)
12.6	Isorhamnetin-3- <i>O</i> -hexoside-4'- <i>O</i> -hexoside	639	477 (100%), 315 (4%)
12.8	Taxifolin- <i>O</i> -hexoside isomer	465	303 (100%), 285 (93%), 241 (2%)
14.0	Quercetin-3- <i>O</i> -hexoside isomer	463	301 (100%), 179 (3%)
14.8	Isorhamnetin-3- <i>O</i> -hexoside isomer	477	315 (100%)
15.1	Quercetin-4'- <i>O</i> -hexoside	463	301 (100%), 179 (4%), 151 (3%)
15.4	Kaempferol-7- <i>O</i> -hexoside isomer	447	285 (100%), 284 (6%), 257 (4%), 151 (3%)
15.5	Isorhamnetin-4'- <i>O</i> -hexoside isomer	477	315 (100%)
16.1	Quercetin-3- <i>O</i> -glucoside	463	301 (100%), 151 (13%), 179 (4%)

16.1	Kaempferol-3- <i>O</i> -hexoside isomer	447	284 (100%), 285 (80%), 255 (5%)
18.1	Quercetin	301	179 (100%), 151 (65%)

---