



Figure S1. The representative chromatograms of (A) non-fermented chili pepper extract and (B) fermented chili pepper extract. The quantity of identified polyphenolic compounds and MS data are shown in Table S1.

Table S1. The quantity of identified polyphenolic compounds and MS data of non-fermented chili pepper extract and fermented chili pepper extract.

Peak No.	Compounds	Rt (min)	[M-H] ⁻ <i>m/z</i>	Molecular formula	MS/MS fragment ions	Non-fermented chili pepper extract	Fermented chili pepper extract
1	Chlorogenic acid	8.23	353.0879	C ₁₆ H ₁₈ O ₉	191.0553(100), 135.0441(16.13)	3553.02 ± 13.56 ¹⁾	752.77 ± 162.37 ^{*** 1)}
2	Kaempferol-3- <i>O</i> -rutinoside	8.59	593.1517	C ₂₇ H ₃₀ O ₁₅	383.0775(53.69), 353.0669(100)	149.88 ± 4.44	1095.74 ± 46.70 ^{***}
3	Caffeic acid	8.73	179.0342	C ₉ H ₈ O ₄	134.0360(100)	99.01 ± 6.72	1047.54 ± 53.57 ^{***}
4	Isoschaftoside	8.94	563.141	C ₂₆ H ₂₈ O ₁₄	353.0669(100)	614.46 ± 19.30	271.27 ± 51.50 ^{***}
5	Luteolin C-[pentosyl]-glucoside	9.56	579.1359	C ₂₆ H ₂₈ O ₁₅	447.0925(1), 327.0506(0.88), 298.0804(0.25), 285.0403(100)	10.55 ± 0.87	137.25 ± 17.51 ^{***}
6	Kaempferol-3- <i>O</i> -glucoside	9.75	447.0934	C ₂₇ H ₃₀ O ₁₅	299.0561(100), 284.0362(80.02)	19.29 ± 0.39	24.00 ± 0.56 ^{***}
7	Luteolin <i>O</i> -(apiosylmalonyl) glucoside	10.02	665.1357	C ₂₁ H ₂₀ O ₁₁	621.1464(9.86), 579.1340(3), 489.1049(5.61), 285.0400(100)	267.08 ± 5.90	170.15 ± 11.07 ^{***}
8	Isorhamnetin-3- <i>O</i> -glucoside	10.19	477.1038	C ₂₂ H ₂₂ O ₁₂	315,285.0394(7.34)163.0025(0.52)	588.47 ± 25.07	465.15 ± 22.34
9	Luteolin	11.67	285.0406	C ₁₅ H ₁₀ O ₆	133.0285(100)107.0125(5.65)	0.00 ± 0.00	159.17 ± 2.51 ^{***}
10	Capsianoside II	11.82	1083.522	C ₅₀ H ₈₃ O ₂₅	1083.5223(100), 1084.5251(57.91), 921.4693(44.96), 775.4118(32.02)	87.25 ± 4.39	60.34 ± 0.25 ^{***}
11	Monomer capsianoside	11.97	1169.522	C ₅₃ H ₈₆ O ₂₈	1083.5219(100), 1065.5117(98.34), 1125.5328(58.69), 1066.5149(56.61)	1267.00 ± 21.38	375.10 ± 6.44 ^{***}
12	Apigenin	12.5	269.0456	C ₁₅ H ₁₀ O ₅	121.0282(3.48), 118.0367(9.42), 117.0334(100), 105.0332(1.50), 107.0126(4.39)	15.55 ± 0.04	35.26 ± 0.36 ^{***}

¹⁾ Data are presented as the mean ± SD (*n* =3) in µg/g of dry weight; polyphenolic compounds 1, 2, 3, 4, 6, 8, 9, and 12 were quantified using their relevant standards; polyphenolic compounds 5 and 7 were quantified using luteolin standard; polyphenolic compounds 10 and 11 were quantified using isorhamnetin-3-*O*-glucoside standard.

¹¹⁾ Significant differences were determined using Student's t-test, *** indicates *p* < 0.001.