

Table S1. Significant difference metabolites content in six red pigmented lettuces cultivars. Values (mean  $\pm$  SD, n=3) of the same compound followed by different lowercase letters indicate significant difference ( $p < 0.01$ ).

Compounds	Area $\times 10^5$					
	S-1	S-2	S-3	B-1	B-2	B-3
Malvidin 3-O-glucoside (Oenin)	1.41 $\pm$ 0.04b	1.22 $\pm$ 0.06b	0.92 $\pm$ 0.04c	1.04 $\pm$ 0.04c	2.59 $\pm$ 0.13a	2.15 $\pm$ 0.09a
Cyanidin 3-O-glucosyl-malonylglucoside	16.89 $\pm$ 0.51b	4.56 $\pm$ 0.23c	15.85 $\pm$ 0.63b	4.35 $\pm$ 0.17c	26.40 $\pm$ 1.32a	18.70 $\pm$ 0.75b
Cyanidin-3,5-O-diglucoside (Cyanin)	1.46 $\pm$ 0.04b	0.93 $\pm$ 0.04c	1.36 $\pm$ 0.05b	0.41 $\pm$ 0.02d	3.14 $\pm$ 0.16a	1.52 $\pm$ 0.06b
Apigenin -glucuronide	4.12 $\pm$ 0.1b	2.55 $\pm$ 0.13c	1.68 $\pm$ 0.07d	3.25 $\pm$ 0.13b	7.21 $\pm$ 0.36a	5.03 $\pm$ 0.20b
Luteolin 7-O-glucoside (Cynaroside)	1.12 $\pm$ 0.06d	1.55 $\pm$ 0.12d	0.68 $\pm$ 0.002e	2.23 $\pm$ 0.20c	6.25 $\pm$ 0.41a	4.61 $\pm$ 0.29b
Luteolin O-hexosyl-O-gluconic acid	0.06 $\pm$ 0.001b	0.05 $\pm$ 0.001b	0.08 $\pm$ 0.001b	0.04 $\pm$ 0.001b	0.15 $\pm$ 0.002a	0.03 $\pm$ 0.001b
Quinic acid	49.55 $\pm$ 2.4b	32.00 $\pm$ 1.62c	25.05 $\pm$ 1.98c	26.10 $\pm$ 1.01c	75.20 $\pm$ 3.71a	53.40 $\pm$ 2.46b
Gallic acid	121.50 $\pm$ 3.64b	87.25 $\pm$ 4.36c	87.60 $\pm$ 3.50c	86.15 $\pm$ 3.45c	158.80 $\pm$ 7.91a	132.50 $\pm$ 5.37b
Neochlorogenic acid (5-O-Caffeoylquinic acid)	49.55 $\pm$ 1.47b	32.00 $\pm$ 1.60c	25.05 $\pm$ 1.00c	26.10 $\pm$ 1.04c	75.20 $\pm$ 3.76a	53.40 $\pm$ 2.14b
Chlorogenic acid (3-O-Caffeoylquinic acid)	577.50 $\pm$ 17.23b	607.5 $\pm$ 30.36a	549.50 $\pm$ 21.98c	565.00 $\pm$ 22.45b	620.00 $\pm$ 31.00a	543.00 $\pm$ 21.71c
Caffeic acid O-glucoside	29.65 $\pm$ 0.89b	19.60 $\pm$ 0.98c	19.30 $\pm$ 0.77c	20.80 $\pm$ 0.83c	44.35 $\pm$ 2.22a	43.55 $\pm$ 1.74a
Caffeic acid	181.00 $\pm$ 5.43b	185.5 $\pm$ 9.38b	150.15 $\pm$ 6.01d	141.45 $\pm$ 5.65e	248.50 $\pm$ 12.43a	160.25 $\pm$ 6.41c
Coumaroylquinic acid	0.65 $\pm$ 0.02b	0.57 $\pm$ 0.03c	0.52 $\pm$ 0.02c	0.63 $\pm$ 0.03b	0.72 $\pm$ 0.04a	0.61 $\pm$ 0.02b
p-Coumaric acid	3.88 $\pm$ 0.12b	4.03 $\pm$ 0.20b	3.64 $\pm$ 0.15c	2.91 $\pm$ 0.12d	5.17 $\pm$ 0.26a	3.62 $\pm$ 0.14c
Ferulic acid	0.88 $\pm$ 0.026b	0.62 $\pm$ 0.03c	1.08 $\pm$ 0.04a	0.66 $\pm$ 0.03c	1.31 $\pm$ 0.07a	0.75 $\pm$ 0.03b

Peak Area (Area) represents the relative content of the metabolites.