

Table S1. The linear equations for the flavonoids and phenolic compounds.

Metabolites	Retention time	limit of detection	limit of quantitation	Standard curves	RSD (%)
4-Hydroxyproline	4.42	28.65	28.65	$y = 1387.24124 x + 19492.53618$ ($r = 0.99891$, $r^2 = 0.99781$)	5.93
beta-Alanine	3.59	40.65	40.65	$y = 154.99409 x + 2159.95738$ ($r = 0.99895$, $r^2 = 0.99791$)	10.09
gamma-Aminobutyric acid	2.59	47.48	236.23	$y = 1284.10741 x + 1.64968e5$ ($r = 0.99534$, $r^2 = 0.99071$)	7.73
L-Alanine	4.31	59.29	59.29	$y = 91.37700 x + 3853.61512$ ($r = 0.99970$, $r^2 = 0.99941$)	12.32
L-Arginine	9.77	210.57	210.57	$y = 671.72717 x + 1.07202e5$ ($r = 0.99412$, $r^2 = 0.98828$)	4.44
L-Asparagine	6.47	92.69	113.09	$y = 65.65557 x + -4026.71185$ ($r = 0.99915$, $r^2 = 0.99829$)	9.68
L-Aspartic acid	8.14	852.21	1107.14	$y = 717.14176 x + -5.95497e5$ ($r = 0.99884$, $r^2 = 0.99769$)	7.92
L-Glutamic acid	6.1	24.16	142.26	$y = 86.70728 x + 1136.28475$ ($r = 0.99971$, $r^2 = 0.99942$)	6.94
L-Glutamine	6.08	949.57	2293.01	$y = 1229.07338 x + -1.12828e6$ ($r = 0.99714$, $r^2 = 0.99428$)	13.21
L-Glycine	5.18	569.93	569.93	$y = 5.01053 x + -1425.62346$ ($r = 0.99883$, $r^2 = 0.99766$)	7.99
L-Histidine	9.49	32.69	32.69	$y = 834.62443 x + -726.29643$ ($r = 0.99965$, $r^2 = 0.99929$)	10.00
L-Isoleucine	2.43	8.61	942.49	$y = 1624.94987 x + 3.51899e4$ ($r = 0.99675$, $r^2 = 0.99351$)	8.99
L-Leucine	2.21	127.70	277.79	$y = 33.37250 x + -2505.92657$ ($r = 0.99876$, $r^2 = 0.99752$)	10.00
L-Lysine	10.08	1332.43	2308.00	$y = 467.30294 x + -6.15385e5$ ($r = 0.99917$, $r^2 = 0.99835$)	11.12
L-Methionine	2.65	29.40	29.40	$y = 384.48336 x + 2477.42204$ ($r = 0.99927$, $r^2 = 0.99854$)	2.05
L-Ornithine	10.16	36.82	36.82	$y = 266.97790 x + -1431.05877$ ($r = 0.99803$, $r^2 = 0.99606$)	10.83
L-Phenylalanine	2.16	44.21	72.46	$y = 2950.84594 x + -5.00651e4$ ($r = 0.99857$, $r^2 = 0.99714$)	11.23
L-Proline	3.11	26.92	26.92	$y = 14549.47721 x + 20496.44559$ ($r = 0.99887$, $r^2 = 0.99774$)	15.81
L-Serine	6.2	4.31	4.31	$y = 137.68201 x + 4149.38611$ ($r = 0.99842$, $r^2 = 0.99685$)	12.10
L-Threonine	4.85	48.74	73.69	$y = 307.07632 x + -5473.33944$ ($r = 0.99930$, $r^2 = 0.99859$)	3.04
L-Tryptophan	2.13	153.21	539.68	$y = 3727.27793 x + -4.72987e5$ ($r = 0.99930$, $r^2 = 0.99859$)	9.82

				= 0.99728, $r^2 = 0.99456$)	
L-Tyrosine	2.99	5.17	415.03	y = 409.62858 x + 28203.17163 (r = 0.99817, $r^2 = 0.99635$)	11.98
L-Valine	2.9	142.71	142.71	y = 2206.36574 x + -5.56010e4 (r = 0.99934, $r^2 = 0.99868$)	8.22
Taurine	3.31	25.12	25.12	y = 2922.15735 x + 3469.61469 (r = 0.99735, $r^2 = 0.99470$)	7.29
