

Table S1 UPLC-MS/MS identification (MRM) of C3G/C3R and its metabolites

Metabolites	Retention time (min)	Parent ion (m/z)	Product ion (m/z)	Collision energy (eV)	Cone voltage (V)
C3G	2.16	449	287.18/137.1	25	30
C3R	2.18	595.2	287.18/449	30	30
PCA	2.10	153.12	109/80.87	25	30
4-HBA	2.42	137.1	93.01/64.48	15	20
pCA	2.69	163.08	119.1	20	25
VA	2.48	167.1	152.1	25	30
IS	3.03	182.16	138.1	25	30

Table S2 UPLC elution gradient program

Time (min)	Flow (mL/min)	%A (0.1% Formic acid)	%B (Methanol)
0	0.25	90	10
2.5	0.25	10	90
4.0	0.25	10	90
5.0	0.25	90	10
7.0	0.25	90	10

Table S3 Room temperature stability of the two anthocyanins and their metabolites (n=3)

Level	Time/ h	Room temperature stability											
		C3G/ ng/mL	PC/ %	C3R/ ng/mL	PC/ %	PCA/ ng/mL	PC/ %	4-HBA/ ng/mL	PC/ %	pCA/ ng/mL	PC/ %	VA/ ng/mL	PC/ %
LQC	0	5.05	100.00	3.11	100.00	3.14	100.00	5.19	100.00	4.75	100.00	36.74	100.00
	2	4.47	88.49	2.99	96.01	2.82	89.81	4.87	93.86	4.46	93.91	35.91	97.73
	4	4.54	89.90	2.97	95.22	2.79	88.68	4.74	91.48	4.20	88.43	34.12	92.86
	6	4.48	88.70	2.98	95.85	2.64	84.07	4.77	91.89	4.19	88.29	33.49	91.14
	8	4.26	84.33	2.83	90.99	2.63	83.83	4.21	81.14	4.11	86.57	32.01	87.11
	10	4.24	83.88	2.73	87.55	2.66	84.73	4.27	82.33	3.95	83.24	30.76	83.73
	12	4.20	83.21	2.73	87.78	2.56	81.39	4.22	81.40	4.07	85.58	30.88	84.05
MQC	0	15.43	100.00	5.76	100.00	11.94	100.00	15.02	100.00	9.86	100.00	107.04	100.00
	2	13.33	86.35	5.55	96.35	10.83	90.68	14.43	96.08	9.12	92.45	97.90	91.46
	4	13.27	85.99	5.33	92.56	10.70	89.59	13.15	87.58	8.92	90.44	93.56	87.40
	6	14.03	90.92	5.31	92.14	10.33	86.54	12.93	86.08	8.86	89.85	95.58	89.29
	8	13.09	84.81	5.17	89.75	9.93	83.17	12.66	84.29	8.47	85.92	89.05	83.19
	10	13.00	84.25	5.09	88.35	9.95	83.31	12.83	85.39	8.28	83.94	88.68	82.84
	12	12.69	82.25	4.89	84.80	10.35	86.66	12.70	84.58	8.35	84.73	89.41	83.52
HQC	0	74.07	100.00	24.83	100.00	120.76	100.00	63.17	100.00	33.98	100.00	226.44	100.00
	2	66.19	89.36	24.29	97.82	112.75	93.37	59.53	94.24	32.97	97.04	221.88	97.98
	4	64.91	87.63	23.71	95.51	110.13	91.19	59.87	94.78	33.17	97.63	219.42	96.90
	6	62.89	84.91	22.55	90.82	109.06	90.31	59.09	93.53	31.07	91.43	201.66	89.06
	8	61.63	83.21	21.12	85.07	104.64	86.65	53.12	84.09	28.86	84.94	187.58	82.84
	10	63.00	85.05	20.96	84.43	101.50	84.04	56.02	88.68	28.64	84.29	190.88	84.29
	12	62.70	84.65	21.02	84.65	101.62	84.15	52.16	82.57	28.93	85.13	191.17	84.42

PC/%: Percentage of remaining

Table S4 Sample pool stability of the two anthocyanins and their metabolites (n=3)

Level	Time/ h	Sample pool stability											
		C3G/ ng/mL	PC/ %	C3R/ ng/mL	PC/ %	PCA/ ng/mL	PC/ %	4-HBA/ ng/mL	PC/ %	ρCA/ ng/mL	PC/ %	VA/ ng/mL	PC/ %
LQC	0	7.25	100.00	3.73	100.00	4.90	100.00	2.01	100.00	3.65	100.00	21.5	100.00
	2	7.18	99.01	3.72	99.88	4.54	92.76	1.87	93.29	3.50	95.82	20.61	95.89
	4	6.88	94.86	3.65	97.85	4.32	88.22	1.79	88.96	3.64	99.67	20.94	97.40
	6	6.63	91.33	3.54	95.09	4.25	86.88	1.75	87.27	3.48	95.24	20.57	95.67
	8	6.33	87.27	3.39	90.98	4.13	84.41	1.74	86.37	3.19	87.39	19.60	91.20
	10	6.12	84.34	3.35	89.93	4.07	83.20	1.76	87.53	3.24	88.89	18.33	85.27
	12	6.34	87.40	3.17	85.15	4.01	81.91	1.68	83.43	3.14	85.97	18.55	86.28
MQC	0	13.82	100.00	5.29	100.00	14.89	100.00	19.50	100.00	11.08	100.00	100.22	100.00
	2	13.21	95.53	5.12	96.80	14.36	96.40	19.12	98.07	11.02	99.45	95.38	95.17
	4	12.60	91.16	5.15	97.39	13.83	92.88	18.54	95.08	10.98	99.09	94.81	94.59
	6	12.34	89.28	5.11	96.52	13.17	88.44	17.91	91.84	10.11	91.27	91.54	91.33
	8	11.86	85.76	4.90	92.54	13.49	90.59	17.19	88.13	10.08	90.99	89.99	89.79
	10	11.98	86.66	4.69	88.59	12.98	87.13	16.50	84.63	9.51	85.84	85.31	85.12
	12	11.63	84.14	4.48	84.58	12.63	84.81	16.56	84.91	9.48	85.54	86.44	86.25
HQC	0	47.73	100.00	37.46	100.00	186.47	100.00	51.21	100.00	53.54	100.00	216.21	100.00
	2	45.06	94.42	34.47	92.00	175.84	94.30	50.69	98.97	49.67	92.78	211.24	97.70
	4	44.43	93.10	34.43	91.90	169.81	91.06	50.18	97.97	51.05	95.36	202.60	93.71
	6	42.85	89.77	34.77	92.83	175.04	93.87	47.84	93.42	47.45	88.63	201.10	93.01
	8	40.32	84.48	31.84	85.00	156.91	84.15	42.88	83.73	45.81	85.57	191.36	88.51
	10	41.38	86.70	31.44	83.94	159.92	85.76	42.78	83.54	47.30	88.34	191.06	88.37
	12	41.94	87.87	31.67	84.54	157.91	84.68	45.00	87.87	47.03	87.84	191.20	88.43

PC/%: Percentage of remaining