

**Table S1.** Chemical parameters used for Principal component analysis

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o.	Chemical parameters	D1	D2	D3	D4	C1	C2	C3	C4	BC1	BC2	BC3	BC4
1	RSA	27.64	29.66	27.78	24.83	25.91	24.71	26.02	26.16	29.07	29.05	29.98	29.02
2	TPC	2.52	2.52	2.35	1.45	1.78	1.64	1.74	1.61	2.51	2.21	1.86	1.98
3	TAC	1.65	1.75	1.61	0.49	0.97	0.78	0.96	0.73	1.34	0.95	0.56	0.71
4	Aesculin	0.467	0.661	1.276	0.302	0.455	0.277	0.297	0.348	0.463	0.774	0.398	0.440
5	p-Hydroxybenzoic acid	0.000	0.000	0.000	0.000	11.048	0.970	4.693	6.058	3.407	4.080	8.238	6.702
	5-O-Caffeoylquinic acid						34.79						
		6.405	2.789	2.191	8.737	3.746	3	3.241	7.584	3.202	6.493	9.982	3.589
7	Caffeic acid	0.344	0.283	0.566	0.285	0.709	0.318	0.284	0.187	0.552	0.279	0.271	0.449
8	Aesculetin	0.378	0.451	0.630	0.555	0.833	0.230	0.252	0.356	0.549	0.330	0.419	0.569
9	Rutin	6.956	6.043	4.780	2	16.367	2	7	6	5.644	9	4	5
	Quercetin 3-O-	17.23	17.43		21.46		22.71	24.35	22.44		22.40	23.18	16.11
	glucoside	9	2	13.985	2	18.261	7	4	9	12.012	6	9	0
11	Ellagic acid	0.000	0.000	0.000	0.000	0.708	0.000	0.298	0.000	0.000	0.000	0.000	0.000
12	Kaempferol 3-O-												
	glucoside	0.410	0.471	0.327	5.127	3.392	5.767	7.151	6.575	0.256	5.229	6.041	4.816
	Quercetin 3-O-						15.45	12.30	13.91		12.17	12.39	
13	rhamnoside	0.000	0.000	0.000	0.000	7.318	2	7	2	0.000	4	5	5.929
14	Phlorizin	0.309	0.236	0.179	0.091	0.143	0.159	0.167	0.137	0.338	0.288	0.140	0.207
15	Quercetin	62.99	85.85	119.13	69.04	130.78	47.12	90.86	57.26	136.39	81.96	72.34	92.89
		5	8	6	5	1	0	4	7	1	6	3	5
	Kaempferol	1.032	1.306	1.191	2.409	2.109	2.042	2.397	1.913	1.109	1.996	2.081	2.054
17	Isorhamnetin	2.857	5.023	6.999	0.752	3.927	1.127	0.956	0.863	6.905	1.471	0.700	1.257
18	Sorbitol	3.781	1.872	0.608	0.842	0.730	0.712	0.485	1.044	0.412	0.734	1.256	0.825
19	Trehalose	0.019	0.001	0.004	0.009	0.003	0.002	0.002	0.004	0.001	0.003	0.000	0.001
20	Glucose	44.47	39.85		27.74		26.51	22.42	24.58		24.80	38.28	36.77
		1	9	24.708	9	26.864	6	4	6	28.632	9	7	5
		32.65	28.12		19.19		33.97	27.08	24.90		24.99	37.82	31.96
21	Fructose	9	4	15.159	7	33.680	8	0	8	29.396	3	0	0
22	Sucrose	2.267	1.564	1.209	1.097	1.844	1.731	0.922	1.015	0.682	0.850	1.023	1.071
23	Isomaltose	0.077	0.003	0.002	0.001	0.002	0.001	0.001	0.001	0.002	0.003	0.002	0.001
24	Turanose	0.088	0.125	0.038	0.002	0.002	0.002	0.003	0.003	0.005	0.008	0.003	0.004
25	Gentiobiose	0.002	0.002	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000
26	Maltose	0.144	0.061	0.026	0.028	0.071	0.027	0.017	0.049	0.123	0.196	0.073	0.126
27	Maltotriose	0.036	0.025	0.018	0.031	0.073	0.038	0.037	0.090	0.028	0.057	0.020	0.329