

Design of Experiments-based Optimization of Flavonoids Extraction from *Daphne genkwa* Flower Buds and Flavonoids Contents at different Blooming Stages

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Table S1. List of *D. genkwa* buds or flowers from DG-A-S1-2019 to DG-L-S3-2019: DG, *Daphne genkwa*; S1 (stage 1, juvenile bud); S2 (stage 2, mature purple bud); S3 (stage 3, complete flowering).

Voucher Specimen	Tag of Species	Geographical Information	Height of Species (cm)
DG-A-S1-2019	A	Seoul	45
DG-A-S2-2019	A	Seoul	45
DG-A-S3-2019	A	Seoul	45
DG-B-S1-2019	B	Seoul	55
DG-B-S2-2019	B	Seoul	55
DG-B-S3-2019	B	Seoul	55
DG-C-S1-2019	C	Seoul	80
DG-C-S2-2019	C	Seoul	80
DG-C-S3-2019	C	Seoul	80
DG-D-S1-2019	D	Seoul	165
DG-D-S2-2019	D	Seoul	165
DG-D-S3-2019	D	Seoul	165
DG-E-S1-2019	E	Seoul	120
DG-E-S2-2019	E	Seoul	120
DG-E-S3-2019	E	Seoul	120
DG-F-S1-2019	F	Suncheon-si, Jeollanam-do	110
DG-F-S2-2019	F	Suncheon-si, Jeollanam-do	110
DG-F-S3-2019	F	Suncheon-si, Jeollanam-do	110
DG-G-S1-2019	G	Suncheon-si, Jeollanam-do	90
DG-G-S2-2019	G	Suncheon-si, Jeollanam-do	90
DG-G-S3-2019	G	Suncheon-si, Jeollanam-do	90
DG-H-S1-2019	H	Geumsan-gun, Chungcheongnam-do	70
DG-H-S2-2019	H	Geumsan-gun, Chungcheongnam-do	70
DG-H-S3-2019	H	Geumsan-gun, Chungcheongnam-do	70
DG-I-S1-2019	I	Geumsan-gun, Chungcheongnam-do	70
DG-I-S2-2019	I	Geumsan-gun, Chungcheongnam-do	70
DG-I-S3-2019	I	Geumsan-gun, Chungcheongnam-do	70
DG-J-S1-2019	J	Gwacheon-si, Gyeonggi-do	95
DG-J-S2-2019	J	Gwacheon-si, Gyeonggi-do	95
DG-J-S3-2019	J	Gwacheon-si, Gyeonggi-do	95
DG-K-S1-2019	K	Uiwang-si, Gyeonggi-do	100
DG-K-S2-2019	K	Uiwang-si, Gyeonggi-do	100
DG-K-S3-2019	K	Uiwang-si, Gyeonggi-do	100
DG-L-S1-2019	L	Gwangju	80
DG-L-S2-2019	L	Gwangju	80
DG-L-S3-2019	L	Gwangju	80

Table S2. Peak area of ea eleven flavonoids peak from DG-A-S1-2019 to DG-L-S3-2019.

Sample ID	Assigned Flavonoid Peaks*										
	1	2	3	4	5	6	7	8	9	10	11
DG-A-S1-2019	77163	85431	82908	3193462	362707	137628	12186	339165	8397	21179	1382699
DG-A-S2-2019	76784	89950	75115	4971039	459389	135236	8117	193527	8727	64858	1432844
DG-A-S3-2019	33660	54626	37902	3014824	119526	38117	6733	56031	24578	8604	813309
DG-B-S1-2019	85442	41961	81451	2476796	159436	57616	13434	258953	15539	180086	1379076
DG-B-S2-2019	45956	71253	47851	4584072	342663	53512	8610	137930	31119	13721	1427682
DG-B-S3-2019	60161	60508	95393	4343796	171438	119174	9835	71242	1449	17375	707592
DG-C-S1-2019	60296	52050	46338	1750414	240786	118281	13886	279229	13249	38174	1390602
DG-C-S2-2019	79681	72278	75005	3824241	267313	129355	14805	443575	22473	91747	1460682
DG-C-S3-2019	48562	54379	43914	3072650	98006	35137	12204	141915	11862	20342	1286115
DG-D-S1-2019	67870	31406	80072	1621191	341221	156451	17760	458865	16839	139030	1385041
DG-D-S2-2019	69742	89111	79031	5100222	385546	132379	10629	240943	7095	34488	1834146
DG-D-S3-2019	42775	74878	58752	4726585	293439	82035	5800	67661	3144	16894	1353969
DG-E-S1-2019	72979	33770	86099	1743216	366904	168227	19097	493403	18106	149495	1489291
DG-E-S2-2019	63691	81380	72174	4657737	352097	120894	9707	220039	6479	31496	1675019
DG-E-S3-2019	45222	57015	33404	3320996	154550	59755	5909	81816	9479	13161	1014912
DG-F-S1-2019	26971	27266	77285	705971	639910	149848	8944	230976	8534	53093	334988
DG-F-S2-2019	70657	71103	92489	2971066	907866	136594	6287	128652	6777	47993	1046667
DG-F-S3-2019	22221	54363	72428	2433938	589733	101064	3147	98747	4979	29212	705446
DG-G-S1-2019	49865	68573	81655	737373	254861	34800	8830	170921	41041	154155	1123572
DG-G-S2-2019	42119	23623	111905	2425207	641194	96038	5280	180622	20196	97467	1874281
DG-G-S3-2019	22814	27684	121547	2278013	422659	48793	4778	116521	13295	91499	1410017
DG-H-S1-2019	38226	45374	106303	602395	896646	180089	7225	256171	3822	3284	130896
DG-H-S2-2019	52294	37626	56473	1639391	634508	155563	8141	284848	12752	13972	542717
DG-H-S3-2019	10692	0	42554	1458290	549548	117313	8383	169494	12617	6721	273544
DG-I-S1-2019	37237	22491	99965	821118	1028716	185293	11714	369584	9104	11559	269580
DG-I-S2-2019	51022	98690	68660	3389983	861096	181893	7031	324967	31074	31246	1725239
DG-I-S3-2019	8854	42747	44934	2063535	904957	104405	9085	272725	13275	9999	626736
DG-J-S1-2019	42764	49330	54147	629446	896051	105254	6599	391449	35659	42006	497337
DG-J-S2-2019	23696	68735	50071	2673043	997211	198193	8168	325735	31409	18298	1564767
DG-J-S3-2019	8882	33245	33250	2589242	546008	130785	5965	206743	18653	8772	883144
DG-K-S1-2019	39343	45384	49815	579090	824367	98834	6071	360133	32806	39446	463550
DG-K-S2-2019	48279	25353	183317	4308864	1449389	789200	5341	218996	3312	4675	1458181
DG-K-S3-2019	23671	24098	144144	3299982	1531842	657659	4257	89629	2820	4851	510851
DG-L-S1-2019	41662	47752	79642	802740	782988	161337	7861	285214	19076	36635	731048
DG-L-S2-2019	43600	97777	76273	2996132	514508	131059	11308	274059	18765	28735	1421713
DG-L-S3-2019	10940	50874	71696	2187139	777261	143418	8979	195782	12584	25481	1259319

* 1; apigenin 5-*O*-glucoside, 2; apigenin 7-*O*-glucoside, 3; yuanhuanin, 4; apigenin 7-*O*-glucuronide, 5; genkwanin 5-*O*-primeveroside, 6; genkwanin 5-*O*-glucoside, 7; genkwanin 4'-*O*-rutinoside, 8; tiliroside, 9; apigenin, 10; 3'-hydroxygenkwanin, 11; genkwanin.