

Additional file 7. Data obtained from ANOVA and post-hoc Tukey tests.

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ANOVA for CYC1 Comparing INT and EXT buds.

	Df	Sum Sq	Mean Sq	F value	Pr(F)
CYC1.b\$flower	1	0.4555	0.4555	8.893	0.0407 *
Residuals	4	0.2049	0.0512		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.b\$flower	diff	lwr	upr	p adj
internal-external	-0.551052	-1.06411	-0.03799405	0.0406564

ANOVA for CYC2A Comparing INT and EXT buds.

	Df	Sum Sq	Mean Sq	F value	Pr(F)
CYC2A.b\$flower	1	0.3905	0.3905	12.73	0.0118 *
Residuals	6	0.1840	0.0307		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2A.b\$flower	diff	lwr	upr	p adj
internal-external	-0.4418814	-0.7448635	-0.1388992	0.011803

ANOVA for CYC2Ba Comparing INT and EXT buds.

	Df	Sum Sq	Mean Sq	F value	Pr(F)
CYC2Ba.b\$flower	1	0.5657	0.5657	3.894	0.0839 .
Residuals	8	1.1622	0.1453		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Ba.b\$flower	diff	lwr	upr	p adj
internal-external	0.4854918	-0.08186518	1.052849	0.0839186

ANOVA for CYC2Bb Comparing INT and EXT buds.

	Df	Sum Sq	Mean Sq	F value	Pr(F)
CYC2Bb.b\$flower	1	1.0468	1.0468	12.66	0.00449 **
Residuals	11	0.9096	0.0827		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Bb.b\$flower	diff	lwr	upr	p adj
internal-external	0.5832833	0.2224651	0.9441015	0.0044884

ANOVA for CYC3A Comparing INT and EXT buds.

	Df	Sum Sq	Mean Sq	F value	Pr(F)
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CYC3A.b\$flower 1 0.5004 0.5004 7.679 0.0243 \*  
Residuals 8 0.5213 0.0652

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3A.b\$flower  
diff lwr upr p adj  
internal-external 0.4566105 0.07664512 0.8365758 0.0242531

ANOVA for CYC3B Comparing INT and EXT buds.

Df Sum Sq Mean Sq F value Pr(>F)  
CYC3B.b\$flower 1 0.04872 0.04872 1.564 0.279  
Residuals 4 0.12460 0.03115

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3B.b\$flower  
diff lwr upr p adj  
internal-external -0.1802183 -0.5803195 0.2198829 0.2792411

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ANOVA Expression Comparisons of CYC by Flower Position (INTERNAL vs. EXTERNAL).

Dorsal Petal ANOVA Expression Comparisons of CYC1.

Df Sum Sq Mean Sq F value Pr(>F)  
CYC1d\$flower 1 2.462 2.4625 3.225 0.123  
Residuals 6 4.581 0.7635

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1d\$flower  
diff lwr upr p adj  
internal-external -1.146003 -2.707465 0.4154594 0.1226536

Dorsal Petal ANOVA Expression Comparisons of CYC2A.

Df Sum Sq Mean Sq F value Pr(>F)  
CYC2Ad\$flower 1 0.04041 0.04041 2.184 0.174  
Residuals 9 0.16657 0.01851

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Ad\$flower  
diff lwr upr p adj  
internal-external -0.1260043 -0.3188984 0.06688987 0.1736041

Dorsal Petal ANOVA Expression Comparisons of CYC2Ba.

Df Sum Sq Mean Sq F value Pr(>F)  
CYC2Bad\$flower 1 0.0058 0.00577 0.02 0.892  
Residuals 7 2.0219 0.28884

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Bad\$flower  
diff lwr upr p adj  
internal-external -0.0537189 -0.952334 0.8448962 0.8915705

Dorsal Petal ANOVA Expression Comparisons of CYC2Bb.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Bbd\$flower	1	0.445	0.4447	1.134	0.302
Residuals	17	6.666	0.3921		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Bbd\$flower	diff	lwr	upr	p adj
internal-external	-0.3098683	-0.9237387	0.3040021	0.3017744

Dorsal Petal ANOVA Expression Comparisons of CYC3A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3Ad\$flower	1	2.142	2.1416	3.137	0.102
Residuals	12	8.193	0.6828		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3Ad\$flower	diff	lwr	upr	p adj
internal-external	0.7903324	-0.1819567	1.762621	0.1019222

Dorsal Petal ANOVA Expression Comparisons of CYC3B.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3Bd\$flower	1	0.0744	0.07444	0.979	0.355
Residuals	7	0.5323	0.07604		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3Bd\$flower	diff	lwr	upr	p adj
internal-external	-0.192926	-0.6539861	0.2681341	0.355402

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ANOVA Expression Comparisons of CYC by Flower Position (INTERNAL vs. EXTERNAL).

Left Lateral Petal ANOVA Expression Comparisons of CYC1.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1LL\$flower	1	1.614	1.6144	3.521	0.09
Residuals	10	4.585	0.4585		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1LL\$flower	diff	lwr	upr	p adj
internal-external	0.7335807	-0.137491	1.604652	0.0900485

Left Lateral Petal ANOVA Expression Comparisons of CYC2A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2ALL\$flower	1	0.06	0.0601	0.094	0.762
Residuals	19	12.13	0.6382		

Tukey multiple comparisons of means

95% family-wise confidence level

	diff	lwr	upr	p adj
CYC2ALL\$flower				
internal-external	0.1081117	-0.6292218	0.8454452	0.762265

Left Lateral Petal ANOVA Expression Comparisons of CYC2Ba.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Ba1LL\$flower	1	0.217	0.2166	0.408	0.534
Residuals	13	6.898	0.5306		

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
CYC2BaLL\$flower				
internal-external	-0.245297	-1.074693	0.5840992	0.5339601

Left Lateral Petal ANOVA Expression Comparisons of CYC2Bb.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2BbLL\$flower	1	0.5751	0.5751	12.08	0.00596 **
Residuals	10	0.4761	0.0476		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
CYC2BbLL\$flower				
internal-external	-0.437838	-0.7185189	-0.1571571	0.0059639

Left Lateral Petal ANOVA Expression Comparisons of CYC3A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3ALL\$flower	1	0.692	0.6915	1.024	0.345
Residuals	7	4.726	0.6751		

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
CYC3ALL\$flower				
internal-external	-0.5880201	-1.961821	0.7857812	0.3451811

Left Lateral Petal ANOVA Expression Comparisons of CYC3B.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3BLL\$flower	1	0.181	0.1814	0.43	0.524
Residuals	13	5.490	0.4223		

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
CYC3BLL\$flower				
internal-external	-0.2245027	-0.9644067	0.5154014	0.5235761

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Right Lateral Petal ANOVA Expression Comparisons based on INTERNAL vs. EXTERNAL Flower Position

Right Lateral Petal ANOVA Expression Comparisons of CYC1.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1RL\$flower	1	0.001	0.0005	0.001	0.978
Residuals	8	5.190	0.6488		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1RL\$flower	diff	lwr	upr	p adj
internal-external	-0.01472943	-1.213688	1.184229	0.9780932

Right Lateral Petal ANOVA Expression Comparisons of CYC2A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2ARL\$flower	1	1.220	1.2204	1.851	0.197
Residuals	13	8.574	0.6595		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2ARL\$flower	diff	lwr	upr	p adj
internal-external	-0.5822436	-1.506911	0.3424235	0.1968445

Right Lateral Petal ANOVA Expression Comparisons of CYC2Ba.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2BaRL\$flower	1	2.707	2.7066	3.649	0.0722
Residuals	18	13.350	0.7417		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2BaRL\$flower	diff	lwr	upr	p adj
internal-external	-0.7509095	-1.576743	0.07492351	0.0721568

Right Lateral Petal ANOVA Expression Comparisons of CYC2Bb.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2BbRL\$flower	1	0.7318	0.7318	3.724	0.0897
Residuals	8	1.5720	0.1965		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2BbRL\$flower	diff	lwr	upr	p adj
internal-external	-0.5903304	-1.295719	0.1150587	0.0897396

Right Lateral Petal ANOVA Expression Comparisons of CYC3A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3ARL\$flower	1	3.557	3.557	9.642	0.036 *
Residuals	4	1.476	0.369		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3ARL\$flower  
diff lwr upr p adj  
internal-external 1.539941 0.1629933 2.916889 0.0360427

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Right Lateral Petal ANOVA Expression Comparisons of CYC3B.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3BRL\$flower	1	0.326	0.3256	0.567	0.466
Residuals	12	6.893	0.5744		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3BRL\$flower  
diff lwr upr p adj  
internal-external 0.3081617 -0.5836476 1.199971 0.4660352

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ANOVA Expression Comparisons of CYC by Flower Position (INTERNAL vs. EXTERNAL).

Ventral Lateral Petal ANOVA Expression Comparisons of CYC1.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1v\$flower	1	4.171	4.171	5.293	0.0549 .
Residuals	7	5.515	0.788		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1v\$flower  
diff lwr upr p adj  
internal-external 1.444057 -0.04012891 2.928243 0.0549352

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Ventral Petal ANOVA Expression Comparisons of CYC2A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Av\$flower	1	6.72	6.720	5.186	0.0403 *
Residuals	13	16.85	1.296		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Av\$flower  
diff lwr upr p adj  
internal-external 1.36627 0.07013065 2.66241 0.040323

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Ventral Petal ANOVA Expression Comparisons of CYC2Ba.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Bav\$flower	1	3.059	3.0588	18.03	0.00381 **
Residuals	7	1.188	0.1697		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means

95% family-wise confidence level

CYC2Bav\$flower	diff	lwr	upr	p adj
internal-external	1.23669	0.5479473	1.925433	0.0038126

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Ventral Petal ANOVA Expression Comparisons of CYC2Bb.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Bbv\$flower	1	0.317	0.3169	0.512	0.487
Residuals	13	8.054	0.6195		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Bbv\$flower	diff	lwr	upr	p adj
internal-external	0.2967057	-0.5995081	1.19292	0.4871178

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Ventral Petal ANOVA Expression Comparisons of CYC3A.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3Av\$flower	1	0.266	0.2660	1.619	0.227
Residuals	12	1.971	0.1643		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3Av\$flower	diff	lwr	upr	p adj
internal-external	0.2876559	-0.2048907	0.7802025	0.2273112

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Ventral Petal ANOVA Expression Comparisons of CYC3B.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3Bbv\$flower	1	2.069	2.0694	11.36	0.0119 *
Residuals	7	1.275	0.1821		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3Bbv\$flower	diff	lwr	upr	p adj
internal-external	1.017193	0.3036444	1.730743	0.0119062

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Gene comparisons based on petal in internal and external florets.

Internal dorsal petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.i.d\$gene	5	59.06	11.813	29.84	7.28e-09 ***
Residuals	21	8.31	0.396		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.i.d\$gene	diff	lwr	upr	p adj
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CYC2A-CYC1	4.4505819	2.9471230	5.95404077	0.0000001
CYC2Ba-CYC1	1.2002992	-0.4069659	2.80756437	0.2238242
CYC2Bb-CYC1	3.1751911	1.8425172	4.50786495	0.0000034
CYC3A-CYC1	0.9213074	-0.4706250	2.31323985	0.3390091
CYC3B-CYC1	3.3860233	1.7787582	4.99328849	0.0000210
CYC2Ba-CYC2A	-3.2502827	-4.7537415	-1.74682380	0.0000145
CYC2Bb-CYC2A	-1.2753908	-2.4808397	-0.06994196	0.0341217
CYC3A-CYC2A	-3.5292745	-4.7999292	-2.25861984	0.0000003
CYC3B-CYC2A	-1.0645586	-2.5680174	0.43890031	0.2723212
CYC2Bb-CYC2Ba	1.9748919	0.6422180	3.30756571	0.0017269
CYC3A-CYC2Ba	-0.2789918	-1.6709243	1.11294061	0.9876528
CYC3B-CYC2Ba	2.1857241	0.5784590	3.79298925	0.0041536
CYC3A-CYC2Bb	-2.2538837	-3.3169896	-1.19077773	0.0000192
CYC3B-CYC2Bb	0.2108323	-1.1218416	1.54350610	0.9958306
CYC3B-CYC3A	2.4647159	1.0727835	3.85664838	0.0002174

External dorsal petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.e.d\$gene	5	111.18	22.236	59.42	<2e-16 ***
Residuals	37	13.85	0.374		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.e.d\$gene	diff	lwr	upr	p adj
CYC2A-CYC1	3.43058340	2.354500	4.50666708	0.0000000
CYC2Ba-CYC1	0.10801538	-1.004805	1.22083599	0.9996914
CYC2Bb-CYC1	2.33905664	1.347841	3.33027215	0.0000003
CYC3A-CYC1	-1.01502770	-2.062714	0.03265826	0.0621971
CYC3B-CYC1	2.43294656	1.320126	3.54576717	0.0000015
CYC2Ba-CYC2A	-3.32256802	-4.345005	-2.30013122	0.0000000
CYC2Bb-CYC2A	-1.09152677	-1.980074	-0.20297991	0.0086815
CYC3A-CYC2A	-4.44561110	-5.396744	-3.49447852	0.0000000
CYC3B-CYC2A	-0.99763684	-2.020074	0.02479996	0.0592862
CYC2Bb-CYC2Ba	2.23104126	1.298341	3.16374117	0.0000002
CYC3A-CYC2Ba	-1.12304308	-2.115548	-0.13053777	0.0187868
CYC3B-CYC2Ba	2.32493118	1.263898	3.38596399	0.0000015
CYC3A-CYC2Bb	-3.35408434	-4.208020	-2.50014915	0.0000000
CYC3B-CYC2Bb	0.09388993	-0.838810	1.02658984	0.9996312
CYC3B-CYC3A	3.44797426	2.455469	4.44047958	0.0000000

Internal left lateral petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.i.LL\$gene	5	38.10	7.621	16.63	7.21e-08 ***
Residuals	30	13.75	0.458		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.i.LL\$gene	diff	lwr	upr	p adj
CYC2A-CYC1	0.78075329	-0.3043485	1.8658550	0.2725628
CYC2Ba-CYC1	0.41877647	-0.7698929	1.6074459	0.8887175
CYC2Bb-CYC1	0.87567593	-0.3129935	2.0643453	0.2497270
CYC3A-CYC1	-3.02269959	-4.4785163	-1.5668828	0.0000081
CYC3B-CYC1	0.55047440	-0.6381950	1.7391438	0.7216859
CYC2Ba-CYC2A	-0.36197682	-1.4470786	0.7231249	0.9093775
CYC2Bb-CYC2A	0.09492265	-0.9901791	1.1800244	0.9997989
CYC3A-CYC2A	-3.80345288	-5.1760101	-2.4308957	0.0000000
CYC3B-CYC2A	-0.23027889	-1.3153806	0.8548228	0.9864080
CYC2Bb-CYC2Ba	0.45689947	-0.7317699	1.6455689	0.8477251

CYC3A-CYC2Ba	-3.44147606	-4.8972928	-1.9856593	0.0000008
CYC3B-CYC2Ba	0.13169793	-1.0569715	1.3203673	0.9993624
CYC3A-CYC2Bb	-3.89837552	-5.3541923	-2.4425588	0.0000001
CYC3B-CYC2Bb	-0.32520154	-1.5138709	0.8634679	0.9590535
CYC3B-CYC3A	3.57317399	2.1173572	5.0289907	0.0000004

External left lateral petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.e.LL\$gene	5	61.91	12.382	25.3	1.12e-11 ***
Residuals	42	20.56	0.489		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.e.LL\$gene

	diff	lwr	upr	p adj
CYC2A-CYC1	1.406222257	0.3620167	2.4504278	0.0030374
CYC2Ba-CYC1	1.397654173	0.2969649	2.4983434	0.0059121
CYC2Bb-CYC1	2.047094581	0.8413499	3.2528393	0.0001186
CYC3A-CYC1	-1.701098772	-2.9068435	-0.4953541	0.0017172
CYC3B-CYC1	1.508557725	0.4078684	2.6092470	0.0024602
CYC2Ba-CYC2A	-0.008568084	-0.9294708	0.9123346	1.0000000
CYC2Bb-CYC2A	0.640872324	-0.4033332	1.6850779	0.4569911
CYC3A-CYC2A	-3.107321028	-4.1515266	-2.0631155	0.0000000
CYC3B-CYC2A	0.102335468	-0.8185673	1.0232382	0.9994269
CYC2Bb-CYC2Ba	0.649440408	-0.4512489	1.7501297	0.5007367
CYC3A-CYC2Ba	-3.098752945	-4.1994422	-1.9980637	0.0000000
CYC3B-CYC2Ba	0.110903552	-0.8735829	1.0953900	0.9993876
CYC3A-CYC2Bb	-3.748193352	-4.9539380	-2.5424487	0.0000000
CYC3B-CYC2Bb	-0.538536856	-1.6392261	0.5621524	0.6903966
CYC3B-CYC3A	3.209656497	2.1089672	4.3103458	0.0000000

Internal right lateral petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.i.RL\$gene	5	10.46	2.0918	3.038	0.0273 *
Residuals	26	17.90	0.6886		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.i.RL\$gene

	diff	lwr	upr	p adj
CYC2A-CYC1	0.46931844	-1.1764312	2.1150680	0.9488907
CYC2Ba-CYC1	0.20881057	-1.3524846	1.7701057	0.9983151
CYC2Bb-CYC1	0.91639835	-1.0308788	2.8636755	0.6997465
CYC3A-CYC1	-1.03019022	-2.9774674	0.9170870	0.5900083
CYC3B-CYC1	0.96867323	-0.5926219	2.5299684	0.4208777
CYC2Ba-CYC2A	-0.26050787	-1.6374408	1.1164250	0.9914354
CYC2Bb-CYC2A	0.44707991	-1.3557484	2.2499083	0.9715211
CYC3A-CYC2A	-1.49950866	-3.3023370	0.3033197	0.1448735
CYC3B-CYC2A	0.49935479	-0.8775781	1.8762877	0.8710565
CYC2Bb-CYC2Ba	0.70758778	-1.0184890	2.4336645	0.8034868
CYC3A-CYC2Ba	-1.23900079	-2.9650775	0.4870759	0.2692155
CYC3B-CYC2Ba	0.75986266	-0.5149295	2.0346548	0.4642990
CYC3A-CYC2Bb	-1.94658857	-4.0283154	0.1351383	0.0767325
CYC3B-CYC2Bb	0.05227488	-1.6738019	1.7783516	0.9999989
CYC3B-CYC3A	1.99886345	0.2727867	3.7249402	0.0164047

External right lateral petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.e.RL\$gene	5	41.27	8.254	15.95	2.27e-08 ***

Residuals 37 19.15 0.518

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.e.RL\$gene

	diff	lwr	upr	p adj
CYC2A-CYC1	1.03683263	-0.1022639	2.1759292	0.0922423
CYC2Ba-CYC1	0.94499064	-0.1356512	2.0256325	0.1160027
CYC2Bb-CYC1	1.49199927	0.2895720	2.6944266	0.0078455
CYC3A-CYC1	-2.58486060	-4.1131190	-1.0566022	0.0001508
CYC3B-CYC1	0.64578210	-0.6020357	1.8935999	0.6322537
CYC2Ba-CYC2A	-0.09184199	-1.0448786	0.8611946	0.9997021
CYC2Bb-CYC2A	0.45516663	-0.6340180	1.5443513	0.8065604
CYC3A-CYC2A	-3.62169323	-5.0625491	-2.1808374	0.0000001
CYC3B-CYC2A	-0.39105053	-1.5301471	0.7480460	0.9042934
CYC2Bb-CYC2Ba	0.54700863	-0.4808868	1.5749041	0.6045361
CYC3A-CYC2Ba	-3.52985124	-4.9249539	-2.1347486	0.0000001
CYC3B-CYC2Ba	-0.29920854	-1.3798504	0.7814333	0.9595965
CYC3A-CYC2Bb	-4.07685987	-5.5682874	-2.5854324	0.0000000
CYC3B-CYC2Bb	-0.84621717	-2.0486445	0.3562101	0.3024747
CYC3B-CYC3A	3.23064270	1.7023843	4.7589011	0.0000030

Internal ventral petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.i.v\$gene	5	8.836	1.767	3.133	0.03 *
Residuals	20	11.280	0.564		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.i.v\$gene

	diff	lwr	upr	p adj
CYC2A-CYC1	0.60072753	-1.0684878	2.2699429	0.8626564
CYC2Ba-CYC1	-0.03927834	-1.9667222	1.8881655	0.9999998
CYC2Bb-CYC1	-0.10339452	-1.7726098	1.5658208	0.9999545
CYC3A-CYC1	-0.69545768	-2.4194159	1.0285005	0.7982573
CYC3B-CYC1	1.23149138	-0.6959525	3.1589352	0.3721389
CYC2Ba-CYC2A	-0.64000586	-2.3092212	1.0292095	0.8292711
CYC2Bb-CYC2A	-0.70412204	-2.0670307	0.6587866	0.5933064
CYC3A-CYC2A	-1.29618520	-2.7256158	0.1332454	0.0896029
CYC3B-CYC2A	0.63076386	-1.0384515	2.2999792	0.8374443
CYC2Bb-CYC2Ba	-0.06411618	-1.7333315	1.6050991	0.9999958
CYC3A-CYC2Ba	-0.65617934	-2.3801375	1.0677788	0.8334184
CYC3B-CYC2Ba	1.27076972	-0.6566741	3.1982136	0.3398192
CYC3A-CYC2Bb	-0.59206316	-2.0214938	0.8373675	0.7806187
CYC3B-CYC2Bb	1.33488590	-0.3343294	3.0041012	0.1669699
CYC3B-CYC3A	1.92694906	0.2029909	3.6509072	0.0230031

External ventral petal comparisons.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.e.v\$gene	5	11.71	2.3428	3.877	0.00601 **
Residuals	39	23.57	0.6043		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.e.v\$gene

	diff	lwr	upr	p adj
CYC2A-CYC1	0.6785144	-0.54899237	1.9060212	0.5678632

CYC2Ba-CYC1	0.1680884	-1.17657788	1.5127548	0.9989624
CYC2Bb-CYC1	1.0439568	-0.18355001	2.2714636	0.1352304
CYC3A-CYC1	0.4609435	-0.76656330	1.6884503	0.8679930
CYC3B-CYC1	1.6583550	0.31368867	3.0030213	0.0082178
CYC2Ba-CYC2A	-0.5104260	-1.73793277	0.7170808	0.8115940
CYC2Bb-CYC2A	0.3654424	-0.73247308	1.4633578	0.9160458
CYC3A-CYC2A	-0.2175709	-1.31548638	0.8803445	0.9908727
CYC3B-CYC2A	0.9798406	-0.24766622	2.2073474	0.1842674
CYC2Bb-CYC2Ba	0.8758683	-0.35163845	2.1033751	0.2899105
CYC3A-CYC2Ba	0.2928551	-0.93465174	1.5203618	0.9790010
CYC3B-CYC2Ba	1.4902665	0.14560023	2.8349329	0.0223434
CYC3A-CYC2Bb	-0.5830133	-1.68092874	0.5149022	0.6092075
CYC3B-CYC2Bb	0.6143982	-0.61310859	1.8419050	0.6665353
CYC3B-CYC3A	1.1974115	-0.03009529	2.4249183	0.0594548

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ANOVA of relative expression levels for six different CYC-like genes comparing internal bud, external bud, and leaf tissue.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.bl\$flower	2	14.89	7.444	6.832	0.0062 **
Residuals	18	19.61	1.090		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC1.bl\$flower	diff	lwr	upr	p adj
internal-external	-2.0234122	-3.4274504	-0.6193739	0.0046586
leaf-external	-0.6226772	-2.0267154	0.7813610	0.5075446
leaf-internal	1.4007350	-0.1373119	2.9387818	0.0778516

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2A.bl\$flower	2	9.862	4.931	8.179	0.00297 **
Residuals	18	10.851	0.603		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2A.bl\$flower	diff	lwr	upr	p adj
internal-external	0.02618554	-1.018205	1.0705764	0.9977454
leaf-external	-1.50624742	-2.550638	-0.4618565	0.0046305
leaf-internal	-1.53243296	-2.676506	-0.3883600	0.0081876

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Ba.bl\$flower	2	33.93	16.967	17.87	5.3e-05 ***
Residuals	18	17.09	0.949		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Ba.bl\$flower	diff	lwr	upr	p adj
internal-external	-0.7478289	-2.058453	0.5627955	0.3346110
leaf-external	-3.0282832	-4.338907	-1.7176589	0.0000397

leaf-internal -2.2804543 -3.716171 -0.8447373 0.0020467

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Bb.bl\$flower	2	62.99	31.493	28.83	9.5e-07 ***
Residuals	21	22.94	1.092		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
internal-external	0.2314342	-0.9302119	1.393080	0.8710629
leaf-external	-4.7884903	-6.4889660	-3.088015	0.0000015
leaf-internal	-5.0199244	-6.7761682	-3.263681	0.0000012

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3A.bl\$flower	2	2.509	1.2544	1.831	0.194
Residuals	15	10.277	0.6851		

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
internal-external	-0.02349016	-1.1566188	1.109638	0.9984029
leaf-external	0.99197063	-0.4413363	2.425278	0.2039449
leaf-internal	1.01546079	-0.5047908	2.535712	0.2250263

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3B.bl\$flower	2	6.43	3.213	0.641	0.538
Residuals	18	90.16	5.009		

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
internal-external	-0.5196680	-3.530077	2.490741	0.8991258
leaf-external	-1.3358482	-4.346258	1.674561	0.5071675
leaf-internal	-0.8161802	-4.113919	2.481558	0.8048241

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ANOVA comparisons of CYC-like genes by petal type in internal and external florets.

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.i\$petal	3	12.617	4.206	7.124	0.00527 **
Residuals	12	7.085	0.590		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

	diff	lwr	upr	p adj
LL-D	2.3584327	0.7453801	3.9714852	0.0045903
RL-D	2.0375633	0.2952674	3.7798591	0.0207894

V-D 1.1101902 -0.7524024 2.9727828 0.3332235  
 RL-LL -0.3208694 -1.7933782 1.1516393 0.9146006  
 V-LL -1.2482424 -2.8612950 0.3648101 0.1531578  
 V-RL -0.9273730 -2.6696689 0.8149228 0.4246444

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC1.e\$petal	3	19.43	6.477	9.623	0.000445 ***
Residuals	19	12.79	0.673		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
 95% family-wise confidence level

CYC1.e\$petal

	diff	lwr	upr	p adj
LL-D	0.4788492	-0.9179708	1.87566930	0.7710926
RL-D	0.9062899	-0.4905301	2.30311000	0.2930337
V-D	-1.4798696	-2.8766897	-0.08304952	0.0355388
RL-LL	0.4274407	-0.9043750	1.75925638	0.8036812
V-LL	-1.9587188	-3.2905345	-0.62690315	0.0028938
V-RL	-2.3861595	-3.7179752	-1.05434385	0.0003916

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2A.i\$petal	3	19.49	6.497	8.796	0.000568 ***
Residuals	21	15.51	0.739		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
 95% family-wise confidence level

CYC2A.i\$petal

	diff	lwr	upr	p adj
LL-D	-1.3113960	-2.750951	0.1281593	0.0824898
RL-D	-1.9437002	-3.490031	-0.3973698	0.0105091
V-D	-2.7396642	-4.285995	-1.1933338	0.0003755
RL-LL	-0.6323043	-1.894878	0.6302692	0.5155622
V-LL	-1.4282682	-2.690842	-0.1656948	0.0229348
V-RL	-0.7959640	-2.179044	0.5871160	0.3978429

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2A.e\$petal	3	77.25	25.750	38.27	7.48e-11 ***
Residuals	33	22.20	0.673		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
 95% family-wise confidence level

CYC2A.e\$petal

	diff	lwr	upr	p adj
LL-D	-1.54551191	-2.6006861	-0.4903377	0.0020275
RL-D	-1.48746083	-2.6055508	-0.3693709	0.0054408
V-D	-4.23193858	-5.3500285	-3.1138487	0.0000000
RL-LL	0.05805108	-0.9202776	1.0363798	0.9984973
V-LL	-2.68642667	-3.6647554	-1.7080980	0.0000001
V-RL	-2.74447774	-3.7903551	-1.6986004	0.0000002

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Ba.i\$petal	3	8.513	2.8378	3.646	0.0354 *
Residuals	16	12.452	0.7782		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Ba.i\$petal

	diff	lwr	upr	p adj
LL-D	1.5769099	-0.2077552	3.36157497	0.0932054
RL-D	1.0460746	-0.6626121	2.75476132	0.3311728
V-D	-0.1293874	-2.1901411	1.93136637	0.9978532
RL-LL	-0.5308353	-1.8938958	0.83222517	0.6863036
V-LL	-1.7062973	-3.4909623	0.07836783	0.0634862
V-RL	-1.1754619	-2.8841487	0.53322477	0.2404640

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Ba.e\$petal	3	52.41	17.47	46.03	3.78e-11 ***
Residuals	29	11.01	0.38		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Ba.e\$petal

	diff	lwr	upr	p adj
LL-D	1.76848803	0.8838818	2.6530943	0.0000417
RL-D	1.74326519	0.9040540	2.5824764	0.0000232
V-D	-1.41979653	-2.3888341	-0.4507589	0.0021923
RL-LL	-0.02522283	-0.7653375	0.7148919	0.9997062
V-LL	-3.18828456	-4.0728908	-2.3036783	0.0000000
V-RL	-3.16306173	-4.0022729	-2.3238505	0.0000000

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Bb.i\$petal	3	20.665	6.888	26.74	4.98e-07 ***
Residuals	19	4.894	0.258		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Bb.i\$petal

	diff	lwr	upr	p adj
LL-D	0.0589175	-0.7118271	0.8296621	0.9963679
RL-D	-0.2212295	-1.1874089	0.7449500	0.9163896
V-D	-2.1683954	-2.9391400	-1.3976508	0.0000011
RL-LL	-0.2801470	-1.2892885	0.7289945	0.8622781
V-LL	-2.2273129	-3.0512735	-1.4033523	0.0000020
V-RL	-1.9471659	-2.9563074	-0.9380244	0.0001682

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC2Bb.e\$petal	3	52.89	17.630	43.06	8.32e-11 ***
Residuals	29	11.87	0.409		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC2Bb.e\$petal

	diff	lwr	upr	p adj
LL-D	0.18688718	-0.6978755	1.0716498	0.9386155
RL-D	0.05923257	-0.7836463	0.9021115	0.9974534
V-D	-2.77496944	-3.5585284	-1.9914105	0.0000000
RL-LL	-0.12765461	-1.0975420	0.8422328	0.9838874
V-LL	-2.96185662	-3.8806610	-2.0430523	0.0000000

V-RL -2.83420201 -3.7127470 -1.9556570 0.0000000

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3A.i\$petal	3	5.939	1.9797	3.597	0.0433 *
Residuals	13	7.154	0.5503		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3A.i\$petal

	diff	lwr	upr	p adj
LL-D	-1.58557433	-3.1252247	-0.04592396	0.0427527
RL-D	0.08606563	-1.4535847	1.62571601	0.9983448
V-D	-0.50657487	-1.8250527	0.81190294	0.6797275
RL-LL	1.67163997	-0.1061952	3.44947509	0.0681726
V-LL	1.07899946	-0.5111446	2.66914353	0.2404103
V-RL	-0.59264050	-2.1827846	0.99750357	0.6992393

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3A.e\$petal	3	1.168	0.3892	0.93	0.443
Residuals	22	9.211	0.4187		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3A.e\$petal

	diff	lwr	upr	p adj
LL-D	-0.207221835	-1.1775940	0.7631503	0.9331296
RL-D	-0.663542964	-1.8799688	0.5528829	0.4460540
V-D	-0.003898399	-0.8769766	0.8691798	0.9999993
RL-LL	-0.456321129	-1.7268365	0.8141942	0.7524567
V-LL	0.203323436	-0.7436628	1.1503097	0.9321423
V-RL	0.659644565	-0.5382088	1.8574980	0.4379336

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3B.i\$petal	3	1.711	0.5703	2.2	0.128
Residuals	16	4.147	0.2592		

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3B.i\$petal

	diff	lwr	upr	p adj
LL-D	-0.47711629	-1.5070705	0.5528379	0.5609739
RL-D	-0.37978686	-1.3658930	0.6063192	0.6934979
V-D	-1.04434175	-2.2336304	0.1449469	0.0958863
RL-LL	0.09732943	-0.6893111	0.8839700	0.9842306
V-LL	-0.56722546	-1.5971797	0.4627288	0.4190799
V-RL	-0.66455489	-1.6506610	0.3215512	0.2557266

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	Df	Sum Sq	Mean Sq	F value	Pr(>F)
CYC3B.e\$petal	3	17.65	5.882	13.47	2.77e-05 ***
Residuals	23	10.04	0.437		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey multiple comparisons of means  
95% family-wise confidence level

CYC3B.e\$petal

	diff	lwr	upr	p adj
LL-D	-0.4455396	-1.409283	0.5182036	0.5847382

RL-D	-0.8808745	-1.936602	0.1748532	0.1252146
V-D	-2.2544612	-3.310189	-1.1987334	0.0000283
RL-LL	-0.4353349	-1.399078	0.5284082	0.6025744
V-LL	-1.8089216	-2.772665	-0.8451784	0.0001593
V-RL	-1.3735866	-2.429314	-0.3178589	0.0076513