

# Supplementary Materials:

**Table S1.** Raw data for Figure 1D

Metabolites Name	Treatment Name			
	M2n	M4n	S2n	S4n
Phloretin-2'-O-glucoside (Phlorizin)	3.89E+06	2.63E+06	2.41E+06	1.68E+06
Kaempferol-3-O-(4''-O-acetyl) rhamnoside	1.72E+07	1.13E+07	8.31E+06	2.84E+06
Eriodictyol (5,7,3',4'-Tetrahydroxyflavanone)	4.44E+06	4.79E+05	1.50E+06	4.97E+04
5,7,3',4',5'-Pentahydroxydihydroflavone	1.65E+07	2.24E+05	3.29E+06	2.33E+04
Syringetin	5.73E+07	7.28E+05	1.59E+07	1.92E+05
Naringenin (5,7,4'-Trihydroxyflavanone)	1.68E+06	1.81E+05	2.79E+05	1.89E+04
Quercetin-3-O-(2''-acetyl) rhamnoside	2.42E+06	8.54E+05	8.02E+05	3.02E+05
3,5,7,2'-Tetrahydroxyflavone; Datiscetin	1.38E+05	5.67E+04	1.98E+05	2.78E+04
Kaempferol (3,5,7,4'-Tetrahydroxyflavone)	2.04E+05	8.35E+04	2.80E+05	3.83E+04
Kaempferol-3-O-(6''-p-Coumaroyl) glucoside (Tiliroside)	3.01E+06	4.56E+04	5.17E+06	8.76E+05
Quercetin-3-O-galactoside (Hyperin)	1.05E+07	8.18E+05	1.50E+07	3.39E+06
Luteolin-7-O-(6''-caffeoyl) rhamnoside	1.22E+06	1.44E+04	1.78E+06	2.85E+05
Isohyperoside	2.40E+06	5.26E+05	1.98E+06	1.39E+06
Quercetin-3-O-sambubioside	1.80E+06	4.51E+05	1.48E+06	9.75E+05
Kaempferol-7-O-rhamnoside	1.35E+06	4.77E+05	1.36E+06	6.45E+05
Kaempferol-3-O-rhamnoside (Afzelin)	1.27E+06	4.41E+05	1.31E+06	5.91E+05
Dihydrokaempferol-3-O-glucoside	3.78E+06	2.21E+05	4.15E+06	1.13E+06
Taxifolin-3'-O-glucoside	3.34E+06	2.50E+05	3.71E+06	8.13E+05
Kaempferol-3-O-sambubioside	9.19E+05	3.94E+04	9.91E+05	1.79E+05
Quercetin-3-O-(6''-p-Coumaroyl) galactoside	4.98E+06	2.42E+05	5.01E+06	2.09E+06
Quercetin-3-O-(2''-O-galactosyl) glucoside	5.01E+05	1.31E+04	4.20E+05	1.74E+05
Quercetin-3-O-glucoside (Isoquercitrin)	1.43E+07	7.90E+05	1.33E+07	3.94E+06
Quercetin-7-O-glucoside	6.66E+07	5.69E+06	6.40E+07	2.13E+07
Quercetin-3-O-(6''-p-Coumaroyl) glucoside	4.78E+05	1.91E+04	5.06E+05	1.72E+04
Gallocatechin 3-O-gallate	1.99E+06	4.14E+05	2.23E+06	7.46E+04
Epigallocatechin-3-gallate	1.70E+06	3.28E+05	1.86E+06	5.62E+04
Catechin	5.19E+05	2.89E+05	5.19E+05	1.64E+05
Epicatechin	2.44E+06	1.39E+06	2.39E+06	8.27E+05
5,7-Dihydroxy-4-methoxyflavone-3-O-xylose-(1-6)-glucose	4.02E+06	1.31E+06	3.77E+06	1.01E+06
Epigallocatechin	2.55E+07	6.37E+06	2.18E+07	3.43E+06
Kaempferol-3-O-arabinoside	2.00E+07	3.85E+06	1.62E+07	1.30E+06
Dihydrokaempferide	2.36E+06	1.44E+06	1.93E+06	1.05E+06
Avicularin(Quercetin-3-O- $\alpha$ -L-arabinofuranoside)	6.99E+06	2.54E+06	5.03E+06	1.41E+06
Limocitrin-3-O-galactoside	4.83E+06	9.67E+05	3.07E+06	3.12E+05
Gallocatechin	2.44E+06	6.33E+05	1.81E+06	2.82E+05
Myricetin-3-O-glucoside	1.53E+07	2.41E+06	1.09E+07	1.19E+06
Taxifolin-3-O-rhamnoside (Astilbin)	1.09E+06	7.72E+04	5.58E+05	1.79E+05
Quercetin-3-O-rhamnoside (Quercitrin)	1.29E+07	3.47E+06	8.50E+06	4.14E+06
Quercetin-3-O-rutinoside (Rutin)	1.02E+07	5.70E+05	5.56E+06	4.79E+05
Kaempferol-3-O-galactoside (Trifolin)	8.23E+06	1.57E+05	7.16E+06	9.76E+05
Myricetin-3-O-rhamnoside (Myricitrin)	4.41E+07	2.44E+05	3.79E+07	2.57E+05
Kaempferol-3-O-rutinoside (Nicotiflorin)	9.58E+06	2.09E+04	7.55E+06	4.47E+04
Kaempferol-3-O-glucoside (Astragalin)	3.85E+06	6.71E+05	3.01E+06	1.17E+06
6,7,8-Tetrahydroxy-5-methoxyflavone	5.88E+06	9.00E+00	4.11E+06	3.25E+05

3-O-Methylquercetin	1.78E+06	5.17E+04	1.25E+06	1.95E+04
Myricetin-3-O-arabinoside	8.17E+06	9.67E+04	5.49E+06	3.41E+04
Isorhamnetin-7-O-glucoside (Brassicin)	3.40E+06	2.45E+06	3.18E+06	4.63E+06
Kaempferol-3-O-glucuronide-7-O-glucoside	9.00E+00	3.28E+04	9.00E+00	4.65E+04
Diosmetin-7-O-galactoside	9.51E+04	6.19E+06	1.51E+05	7.33E+06
Kaempferol-3-O-glucuronide	9.00E+00	1.01E+06	9.00E+00	1.26E+06
Dihydroxy-dimethoxyflavone-7-O-glucoside	1.96E+04	2.57E+06	2.75E+03	3.30E+06
Apigenin-6-C-glucoside (Isovitexin)	6.64E+04	7.86E+04	5.15E+04	1.12E+05
Catechin-(7,8-bc)-4β-(3,4-dihydroxyphenyl)-dihydro-2-(3H)-one	3.29E+04	1.78E+06	3.70E+04	4.37E+06
Dihydroquercetin (Taxifolin)	5.82E+04	1.57E+05	2.66E+05	1.91E+05
Epicatechin glucoside	1.87E+05	2.78E+05	1.05E+06	4.69E+05
Cyanidin-3-O-glucoside (Kuromanin)	5.75E+05	6.25E+05	1.86E+07	1.11E+06
Eriodictyol-3'-O-glucoside	7.65E+05	7.94E+05	3.22E+06	9.64E+05
Kaempferol-3,7-di-O-glucoside	9.72E+05	1.18E+05	2.62E+06	7.98E+05
Kaempferol-3-O-sophorotrioside	6.29E+04	2.90E+04	1.37E+05	5.83E+04
Kaempferol-3,7-O-dirhamnoside (Kaempferitrin)	1.52E+05	9.00E+00	5.94E+05	7.19E+03
Apiferol	2.49E+05	1.73E+05	9.53E+05	9.95E+03
Naringenin-7-O-glucoside (Prunin)	2.60E+06	2.25E+06	8.70E+06	1.48E+06
Apigenin-5-O-glucoside	9.00E+00	1.23E+05	9.00E+00	8.25E+04
Luteolin-7-O-glucuronide	9.00E+00	1.17E+07	9.00E+00	7.89E+06
Quercetin-3-O-(2''-O-glucosyl) glucuronide	9.00E+00	1.94E+05	9.00E+00	1.01E+05
Quercetin-5-O-glucuronide	9.00E+00	1.30E+07	9.00E+00	5.35E+06
Hispidulin (5,7,4'-Trihydroxy-6-methoxyflavone)	8.18E+04	1.74E+07	3.31E+04	7.62E+06
Diosmetin (5,7,3'-Trihydroxy-4'-methoxyflavone)	2.55E+04	1.02E+07	3.79E+04	4.61E+06
Quercetin-3-O-(6''-acetyl) galactoside	4.15E+04	8.12E+05	8.36E+04	3.56E+05
Quercetin-3-O-(6''-malonyl) galactoside	5.13E+04	1.31E+06	1.24E+05	6.24E+05
Tricin-7-O-Glucoside	1.92E+05	8.40E+06	1.36E+05	1.02E+06
Tricin-4'-O-glucoside	2.14E+05	8.15E+06	1.38E+05	1.09E+06
7-O-Methyleriodictyol	2.36E+04	9.25E+05	9.00E+00	2.09E+04
Tricin (5,7,4'-Trihydroxy-3',5'-dimethoxyflavone)	1.73E+05	2.36E+07	6.76E+04	1.29E+06
7-O-Methylnaringenin	5.88E+04	2.96E+05	8.37E+03	3.85E+04
Luteolin (5,7,3',4'-Tetrahydroxyflavone)	2.47E+04	2.24E+05	1.32E+04	1.40E+04
Kaempferide-3-O-glucuronide	8.79E+03	4.43E+04	6.54E+03	5.86E+03
Catechin-catechin-catechin	2.82E+04	9.92E+04	3.95E+04	4.11E+04
Kaempferol-3-O-(6''-acetyl) glucoside	7.13E+04	1.04E+06	2.36E+05	4.22E+05
Myricetin-3-O-glucuronide	4.91E+03	4.04E+07	2.75E+03	9.05E+06
Kaempferol-3-O-(6''-malonyl) glucoside	9.59E+04	2.41E+06	2.86E+05	6.70E+05
Kaempferol-3-O-(6''-malonyl) galactoside	9.88E+04	2.50E+06	2.63E+05	6.39E+05
Kaempferol-3-O-(4''-O-p-Coumaroyl) rhamnoside	1.72E+07	1.88E+07	5.58E+06	5.04E+05
Catechin-(7,8-bc)-4α-(3,4-dihydroxyphenyl)-dihydro-2-(3H)-one	2.29E+07	2.35E+07	2.01E+07	1.99E+07
Kaempferol-3-O-(3''-O-p-Coumaroyl) rhamnoside	2.14E+07	2.69E+07	5.22E+06	9.27E+05
Quercetin	4.47E+05	5.25E+05	3.62E+05	1.22E+05
Kaempferol-3-O-(2''-p-Coumaroyl) glucoside	7.96E+05	7.02E+05	4.41E+05	5.19E+04
Phloretin	1.57E+06	4.15E+06	1.93E+06	1.59E+05
Aromadendrin (Dihydrokaempferol)	2.00E+05	2.37E+05	2.60E+05	2.79E+04

Table S2. Raw data for Figure 2

Glucoside Type	Metabolites Name	Treatment Name
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		M2n	M4n	S2n	S4n
arabinoside	Kaempferol-3-O-arabinoside	2.00E+07	3.85E+06	1.62E+07	1.30E+06
arabinoside	Avicularin	6.99E+06	2.54E+06	5.03E+06	1.41E+06
arabinoside	Myricetin-3-O-arabinoside	8.17E+06	9.67E+04	5.49E+06	3.41E+04
galactoside	Diosmetin-7-O-galactoside	9.51E+04	6.19E+06	1.51E+05	7.33E+06
galactoside	Limocitrin-3-O-galactoside	4.83E+06	9.67E+05	3.07E+06	3.12E+05
galactoside	Hyperin	1.05E+07	8.18E+05	1.50E+07	3.39E+06
galactoside	Trifolin	8.23E+06	1.57E+05	7.16E+06	9.76E+05
	Quercetin-3-O-(6"-acetyl) galac-				
galactoside	toside	4.15E+04	8.12E+05	8.36E+04	3.56E+05
	Kaempferol-3-O-(6"-malonyl) ga-				
galactoside	lactoside	9.88E+04	2.50E+06	2.63E+05	6.39E+05
	Quercetin-3-O-(6"-malonyl) ga-				
galactoside	lactoside	5.13E+04	1.31E+06	1.24E+05	6.24E+05
	Quercetin-3-O-(6"-p-Coumaroyl)				
galactoside	galactoside	4.98E+06	2.42E+05	5.01E+06	2.09E+06
galactoside	Isohyperoside	2.40E+06	5.26E+05	1.98E+06	1.39E+06
dirhamnoside	Kaempferitrin	1.52E+05	9.00E+00	5.94E+05	7.19E+03
sophorotrioside	Kaempferol-3-O-sophorotrioside	6.29E+04	2.90E+04	1.37E+05	5.83E+04
glucoside	Phloretin-2'-O-glucoside	3.89E+06	2.63E+06	2.41E+06	1.68E+06
glucoside	Naringenin-7-O-glucoside	2.60E+06	2.25E+06	8.70E+06	1.48E+06
glucoside	Eriodictyol-3'-O-glucoside	7.65E+05	7.94E+05	3.22E+06	9.64E+05
	Dihydrokaempferol-3-O-gluco-				
glucoside	side	3.78E+06	2.21E+05	4.15E+06	1.13E+06
glucoside	Kuromanin	5.75E+05	6.25E+05	1.86E+07	1.11E+06
glucoside	Apigenin-5-O-glucoside	9.00E+00	1.23E+05	9.00E+00	8.25E+04
glucoside	Taxifolin-3'-O-glucoside	3.34E+06	2.50E+05	3.71E+06	8.13E+05
	Dihydroxy-dimethoxyflavone-7-				
glucoside	O-glucoside	1.96E+04	2.57E+06	2.75E+03	3.30E+06
glucoside	Tricin-7-O-Glucoside	1.92E+05	8.40E+06	1.36E+05	1.02E+06
glucoside	Tricin-4'-O-glucoside	2.14E+05	8.15E+06	1.38E+05	1.09E+06
	Kaempferol-3-O-(2"-p-Couma-				
glucoside	royl) glucoside	7.96E+05	7.02E+05	4.41E+05	5.19E+04
glucoside	Kaempferol-3,7-di-O-glucoside	9.72E+05	1.18E+05	2.62E+06	7.98E+05
glucoside	Brassicin	3.40E+06	2.45E+06	3.18E+06	4.63E+06
	Quercetin-3-O-(2"-O-galactosyl)				
glucoside	glucoside	5.01E+05	1.31E+04	4.20E+05	1.74E+05
glucoside	Quercetin-7-O-glucoside	6.66E+07	5.69E+06	6.40E+07	2.13E+07
glucoside	Astragalin	3.85E+06	6.71E+05	3.01E+06	1.17E+06
glucoside	Isoquercitrin	1.43E+07	7.90E+05	1.33E+07	3.94E+06
glucoside	Tiliroside	3.01E+06	4.56E+04	5.17E+06	8.76E+05
glucoside	Myricetin-3-O-glucoside	1.53E+07	2.41E+06	1.09E+07	1.19E+06
	Kaempferol-3-O-(6"-acetyl) glu-				
glucoside	coside	7.13E+04	1.04E+06	2.36E+05	4.22E+05
	Kaempferol-3-O-(6"-malo-				
glucoside	nyl)glucoside	9.59E+04	2.41E+06	2.86E+05	6.70E+05
	Quercetin-3-O-(6"-p-Coumaroyl)				
glucoside	glucoside	4.78E+05	1.91E+04	5.06E+05	1.72E+04
	Kaempferol-3-O-glucuronide-7-				
glucoside	O-glucoside	9.00E+00	3.28E+04	9.00E+00	4.65E+04

glucoside	Isovitexin	6.64E+04	7.86E+04	5.15E+04	1.12E+05
glucuronide	Luteolin-7-O-glucuronide	9.00E+00	1.17E+07	9.00E+00	7.89E+06
glucuronide	Myricetin-3-O-glucuronide	4.91E+03	4.04E+07	2.75E+03	9.05E+06
glucuronide	Kaempferol-3-O-glucuronide	9.00E+00	1.01E+06	9.00E+00	1.26E+06
glucuronide	Kaempferide-3-O-glucuronide	8.79E+03	4.43E+04	6.54E+03	5.86E+03
glucuronide	Quercetin-5-O-glucuronide	9.00E+00	1.30E+07	9.00E+00	5.35E+06
	Quercetin-3-O-(2"-O-glucosyl)				
glucuronide	glucuronide	9.00E+00	1.94E+05	9.00E+00	1.01E+05
sambubioside	Kaempferol-3-O-sambubioside	9.19E+05	3.94E+04	9.91E+05	1.79E+05
sambubioside	Quercetin-3-O-sambubioside	1.80E+06	4.51E+05	1.48E+06	9.75E+05
rhamnoside	Taxifolin-3-O-rhamnoside	1.09E+06	7.72E+04	5.58E+05	1.79E+05
	Kaempferol-3-O-(4"-O-acetyl)				
rhamnoside	rhamnoside	1.72E+07	1.13E+07	8.31E+06	2.84E+06
	Kaempferol-3-O-(3"-O-p-Couma-				
rhamnoside	royl) rhamnoside	2.14E+07	2.69E+07	5.22E+06	9.27E+05
	Kaempferol-3-O-(4"-O-p-Couma-				
rhamnoside	royl) rhamnoside	1.72E+07	1.88E+07	5.58E+06	5.04E+05
	Luteolin-7-O-(6"-caffeoyl) rham-				
rhamnoside	noside	1.22E+06	1.44E+04	1.78E+06	2.85E+05
rhamnoside	Quercitrin	1.29E+07	3.47E+06	8.50E+06	4.14E+06
rhamnoside	Afzelin	1.27E+06	4.41E+05	1.31E+06	5.91E+05
rhamnoside	Kaempferol-7-O-rhamnoside	1.35E+06	4.77E+05	1.36E+06	6.45E+05
rhamnoside	Myricitrin	4.41E+07	2.44E+05	3.79E+07	2.57E+05
	Quercetin-3-O-(2"-acetyl) rham-				
rhamnoside	noside	2.42E+06	8.54E+05	8.02E+05	3.02E+05
rutinoside	Nicotiflorin	9.58E+06	2.09E+04	7.55E+06	4.47E+04
rutinoside	Rutin	1.02E+07	5.70E+05	5.56E+06	4.79E+05

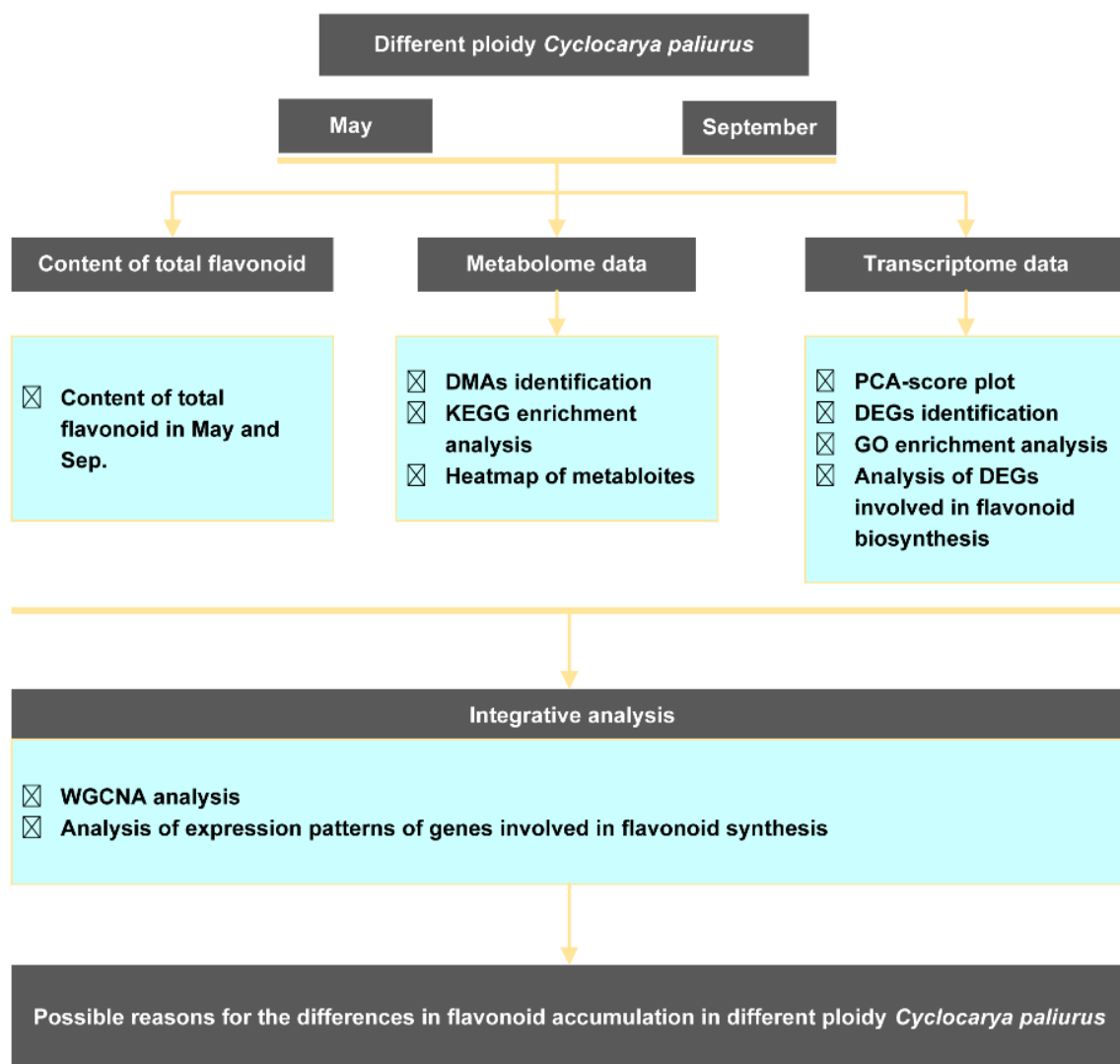
Table S3. Gene structures obtained from DEGs.

Gene ID	Gene Name	Log <sub>2</sub> (FC)		FDR	
		M2n vs. M4n	S2n vs. S4n	M2n vs. M4n	S2n vs. S4n
CpaM1st03529	UGT85	2.036599	-6.07085	NA	0.009144
CpaM1st04091	UGT85	0.301057	-1.64594	0.931383	0.000816
CpaM1st06427	4CL	0.795167	2.280188	0.791895	0.000151
CpaM1st11173	UGT87	-2.26984	-1.00121	0.12262	0.23054
CpaM1st11329	UGT74	0.381101	3.02429	0.93503	1.38E-08
CpaM1st12118	UGT84	7.754754	3.994756	0.02841	NA
CpaM1st23532	UGT71	-0.13517	-0.76396	0.967328	0.444633
CpaM1st23533	UGT71	0.013573	-0.74267	0.997461	0.389719
CpaM1st24387	UGT90	-1.74616	-1.13933	1.37E-05	0.000198
CpaM1st24780	CHS	2.506459	1.844395	0.670378	1.44E-08
CpaM1st26423	UGT89	0.888685	2.481774	0.866856	0.00019
CpaM1st33727	UGT91	-1.20169	-1.13256	0.760835	0.051934
CpaM1st35688	UGT85	0.834253	2.957005	0.970108	8.04E-07
CpaM1st35689	UGT85	0.981725	3.662795	0.95617	4.83E-06
CpaM1st36909	UGT78	1.313037	3.469082	0.785133	0.006097
CpaM1st36911	UGT78	0.388794	5.360547	0.936779	0.000932
CpaM1st36913	UGT78	0.954847	5.35243	0.795643	0.037182

CpaM1st40682	<i>UGT73</i>	-2.03348	-0.55367	0.029012	0.770968
CpaM1st43651	<i>UGT78</i>	1.435794	2.124905	NA	0.028364
CpaM1st43771	<i>UGT85</i>	0.614016	2.914918	0.923662	5.62E-06
CpaM1st47151	<i>PAL</i>	0.754805	1.445957	0.777863	0.00422

**Table S4.** TFs obtained from DEGs.

Gene Id	Gene Name	Gene Id	Gene Name	Gene Id	Gene Name
CpaM1st06663	<i>AP2</i>	CpaM1st05007	<i>ERF</i>	CpaM1st08623	<i>MYB</i>
CpaM1st15655	<i>ARF</i>	CpaM1st12838	<i>ERF</i>	CpaM1st15012	<i>MYB</i>
CpaM1st27253	<i>ARF</i>	CpaM1st21183	<i>ERF</i>	CpaM1st17430	<i>MYB</i>
CpaM1st28900	<i>ARF</i>	CpaM1st22877	<i>ERF</i>	CpaM1st25404	<i>MYB</i>
CpaM1st01599	<i>ARR-B</i>	CpaM1st32520	<i>ERF</i>	CpaM1st28082	<i>MYB</i>
CpaM1st01963	<i>ARR-B</i>	CpaM1st33089	<i>ERF</i>	CpaM1st36014	<i>MYB</i>
CpaM1st16936	<i>ARR-B</i>	CpaM1st35260	<i>ERF</i>	CpaM1st17931	<i>MYB_related</i>
CpaM1st06331	<i>BES1</i>	CpaM1st51484	<i>ERF</i>	CpaM1st33832	<i>MYB_related</i>
CpaM1st06558	<i>BES1</i>	CpaM1st20930	<i>FAR1</i>	CpaM1st01029	<i>NAC</i>
CpaM1st18924	<i>bHLH</i>	CpaM1st39296	<i>G2-like</i>	CpaM1st19975	<i>NAC</i>
CpaM1st19476	<i>bHLH</i>	CpaM1st40361	<i>G2-like</i>	CpaM1st35362	<i>NAC</i>
CpaM1st20322	<i>bHLH</i>	CpaM1st01234	<i>GRAS</i>	CpaM1st35427	<i>NAC</i>
CpaM1st30271	<i>bHLH</i>	CpaM1st02029	<i>GRAS</i>	CpaM1st36195	<i>NAC</i>
CpaM1st31844	<i>bHLH</i>	CpaM1st04762	<i>GRAS</i>	CpaM1st39970	<i>NAC</i>
CpaM1st31909	<i>bHLH</i>	CpaM1st21506	<i>GRAS</i>	CpaM1st46075	<i>NF-YA</i>
CpaM1st41917	<i>bHLH</i>	CpaM1st20598	<i>HB-other</i>	CpaM1st34196	<i>NF-YC</i>
CpaM1st43854	<i>bHLH</i>	CpaM1st19816	<i>HD-ZIP</i>	CpaM1st32369	<i>SBP</i>
CpaM1st18833	<i>bZIP</i>	CpaM1st32910	<i>HSF</i>	CpaM1st06573	<i>TALE</i>
CpaM1st42789	<i>bZIP</i>	CpaM1st10706	<i>LBD</i>	CpaM1st15546	<i>TALE</i>
CpaM1st02167	<i>C2H2</i>	CpaM1st17962	<i>LBD</i>	CpaM1st12337	<i>Trihelix</i>
CpaM1st04710	<i>C2H2</i>	CpaM1st41973	<i>LBD</i>	CpaM1st13185	<i>Whirly</i>
CpaM1st03906	<i>C3H</i>	CpaM1st24150	<i>MIKC_MADS</i>	CpaM1st24145	<i>WRKY</i>
CpaM1st30794	<i>C3H</i>	CpaM1st25222	<i>MIKC_MADS</i>	CpaM1st30889	<i>WRKY</i>
CpaM1st39993	<i>C3H</i>	CpaM1st03571	<i>M-type_MADS</i>	CpaM1st34874	<i>WRKY</i>
CpaM1st11438	<i>EIL</i>	CpaM1st04757	<i>MYB</i>		



**Figure S1.** Framework and analytical process for this study, presents the technical roadmap and analytical process that will be followed in this article.

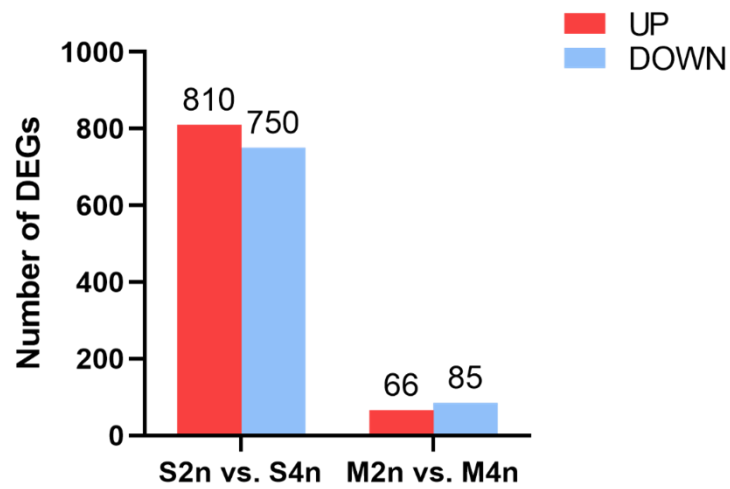


Figure S2. Column plot showing the number of DEGs.

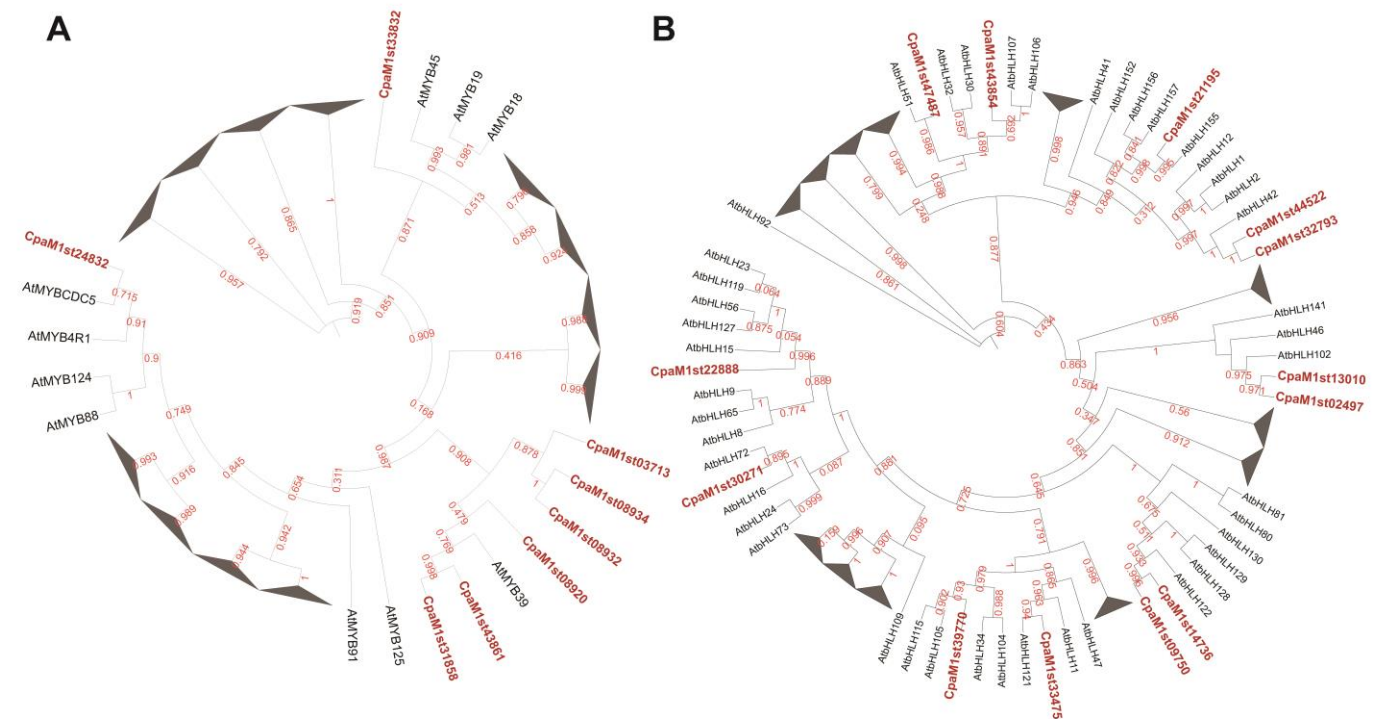
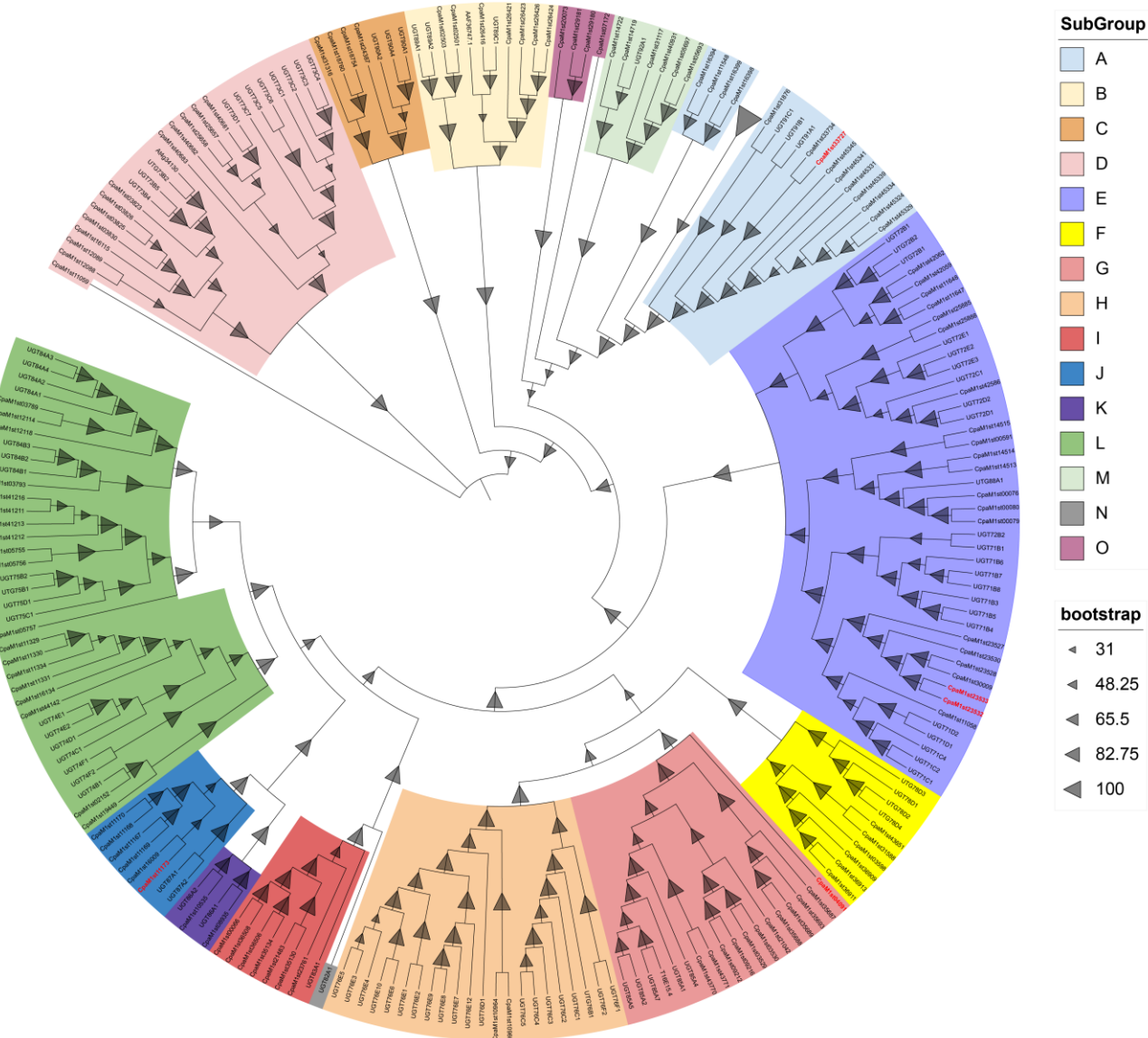


Figure S3. Phylogenetic tree of MYBs and bHLH obtained from *C. paliurus* and *A. thaliana*, the neighbor-joining method was used to construct the bootstrap (n = 1000). The DEGs mentioned in the manuscript are highlighted in red, while the evolutionary branches of genes not discussed in this study have been simplified as gray triangles.



**Figure S4.** Phylogenetic tree of UGTs obtained from *C. paliurus* and *A. thaliana*, the neighbor-joining method was used to construct the bootstrap ( $n = 1000$ ). The DEGs mentioned in the manuscript are highlighted in red, while the evolutionary branches of genes not discussed in this study have been simplified as gray triangles. UGTs are divided into 15 subgroups, as outlined in Ross et al.'s [11] research.