

Supplemental Data for:

Guan, L., J.H. Li, P.G. Fan, S.H. Li, J.B. Fang, Z.W. Dai, S. Delrot, L.J. Wang, and B.H. Wu. 2014. Regulation of anthocyanin biosynthesis in tissues of a teinturier grape cultivar under sunlight exclusion. *Am. J. Enol. Vitic.* 65:363-374. doi: 10.5344/ajev.2014.14029.

Supplemental Table 1 Oligonucleotide primers (forward and reverse) used in this study for real-time quantitative PCR analysis.

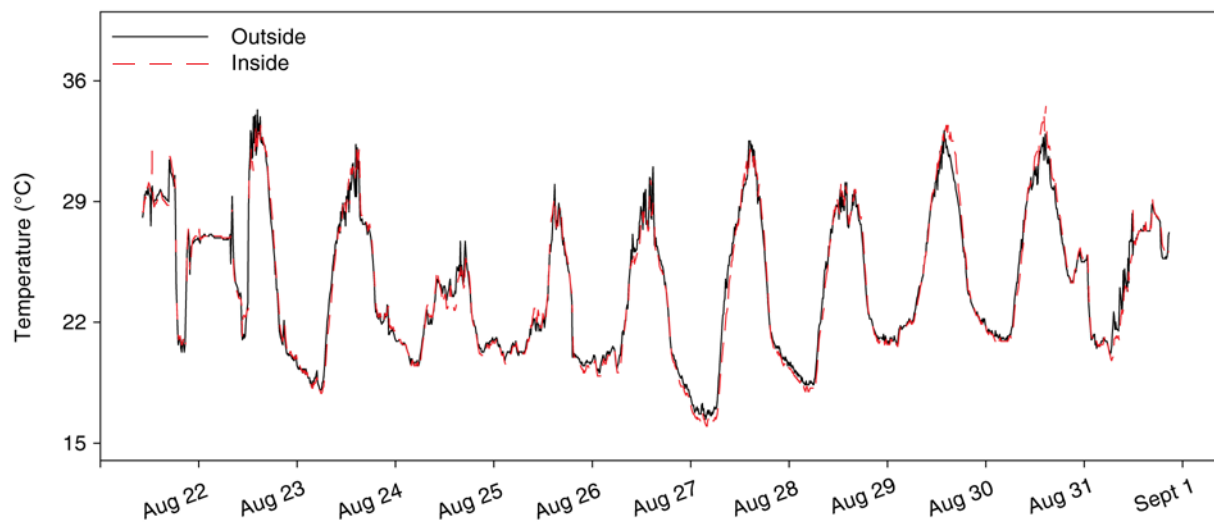
Gene ID	Primer	Sequence	Amplicon length (bp)
<i>VvF3'H</i>	Forw 5'	TGGGCTGACCCTACAACG	200
	Rev 5'	TCTTAACCAATGGGGCAAAGA	
<i>VvF3'5'H</i>	Forw 5'	AGAATGGGAATAGTGCTGGT	135
	Rev 5'	CCGAAAGAGAAACTGCCTT	
<i>VvUFGT</i>	Forw 5'	GGGATGGTAATGGCTGTG	148
	Rev 5'	GGGTGGAGAGTGAGTTAGGC	
<i>VvMybA1</i>	Forw 5'	GAGAGTTTGCATTAGACGAGG	83
	Rev 5'	CCTACCCGCAATCAAGGAC	
<i>VvMybA2</i>	Forw 5'	TTATCGCAAGCCTCAG	92
	Rev 5'	AATCACCTCACCTCC	
<i>VvMyb5a</i>	Forw 5'	CAATGAGAATTGGCAAAGCG	144
	Rev 5'	GCAGCAGGTTCCAGACAG	
<i>VvMybPA1</i>	Forw 5'	TTTGGGAAATCGGTGGTC	198
	Rev 5'	GACATGGAGATTAAGGAGGTGA	
<i>VvMycA1</i>	Forw 5'	ATGATATAGAGGGGATGAGTGA	148
	Rev 5'	CTTGGGAAGCACCTCCATTA	
<i>VvMyc1</i>	Forw 5'	CAGGGAAGGGCTGTTGC	192
	Rev 5'	CACTGGGGTATTATTTGGTTTATT	
<i>VvWDR1</i>	Forw 5'	GGTGAAGCAGGGTTTTTCG	162
	Rev 5'	TGGGTCCAGCAAGCGTAG	
<i>VvWDR2</i>	Forw 5'	CATTCCCGACAAGGACTGC	229
	Rev 5'	CACGAGCCGAACAAGAGG	

Supplemental Table 2 Relative content of the 19 identified anthocyanins (expressed as % of total anthocyanins) in the four tissues through the developmental season in 2011 and 2010. Mv, Pn, Pt, Dp, and Cy indicate malvidin, peonidin, petunidin, delphinidin, and cyanidin derivatives, respectively.

Peak order	t_R (min)	Identity	Range (%)	
			2010	2011
		Mv	8.3–64.5	6.3–67.8
6	22.389	Malvidin-3- <i>O</i> -glucoside	4.5–45.4	5.5–47.6
11	38.391	Malvidin-3- <i>O</i> -(6- <i>O</i> -acetyl-glucoside)	0–19.1	0–21.3
13	42.304	Malvidin-3- <i>O</i> -(6- <i>O</i> -caffeoyl-glucoside)	0–6.32	ND
17	47.453	Malvidin-3- <i>O</i> -(<i>cis</i> -6- <i>O</i> -coumaryl-glucoside)	0–5.8	0–5.8
19	53.905	Malvidin-3- <i>O</i> -(<i>trans</i> -6- <i>O</i> -coumaryl-glucoside)	0–22.8	0–9.2
		Pn	12.9–80.7	10.6–80.2
5	21.360	Peonidin-3- <i>O</i> -glucoside	4.3–70.7	4.2–74.0
10	37.769	Peonidin-3- <i>O</i> -(6- <i>O</i> -acetyl-glucoside)	0–14.6	0–11.8
12	41.683	Peonidin-3- <i>O</i> -(6- <i>O</i> -caffeoyl-glucoside)	0–4.2	ND
16	47.180	Peonidin-3- <i>O</i> -(<i>cis</i> -6- <i>O</i> -coumaryl-glucoside)	0–5.9	0–5.4
18	53.017	Peonidin-3- <i>O</i> -(<i>trans</i> -6- <i>O</i> -coumaryl-glucoside)	0–27.8	0–16.9
		Dp	1.4–20.2	0.9–19.3
1	15.242	Delphinidin-3- <i>O</i> -glucoside	0.9–10.4	0.9–20.2
7	25.888	Delphinidin-3- <i>O</i> -(6- <i>O</i> -acetyl-glucoside)	0–4.9	0–5.9
		Cy	0–24.4	1.8–47.2
2	17.306	Cyanidin-3- <i>O</i> -glucoside	1.0–23.7	0–17.6
8	32.206	Cyanidin-3- <i>O</i> -(6- <i>O</i> -acetyl-glucoside)	0–3.1	ND
14	43.373	Cyanidin-3- <i>O</i> -(6- <i>O</i> -coumaryl-glucoside)	0–11.1	0–14.3
		Pt	1.8–22.4	1.7–20.6
3	18.127	Petunidin-3- <i>O</i> -glucoside	1.0–25.0	0.9–20.1
9	33.234	Petunidin- <i>O</i> -(6- <i>O</i> -acetyl-glucoside)	0–4.5	0–14.7
15	44.635	Petunidin-3- <i>O</i> -(6- <i>O</i> -coumaryl-glucoside)	0–4.9	0–6.3
4	20.325	Pelargonidin-3- <i>O</i> -glucoside	0–2.4	0–1.8

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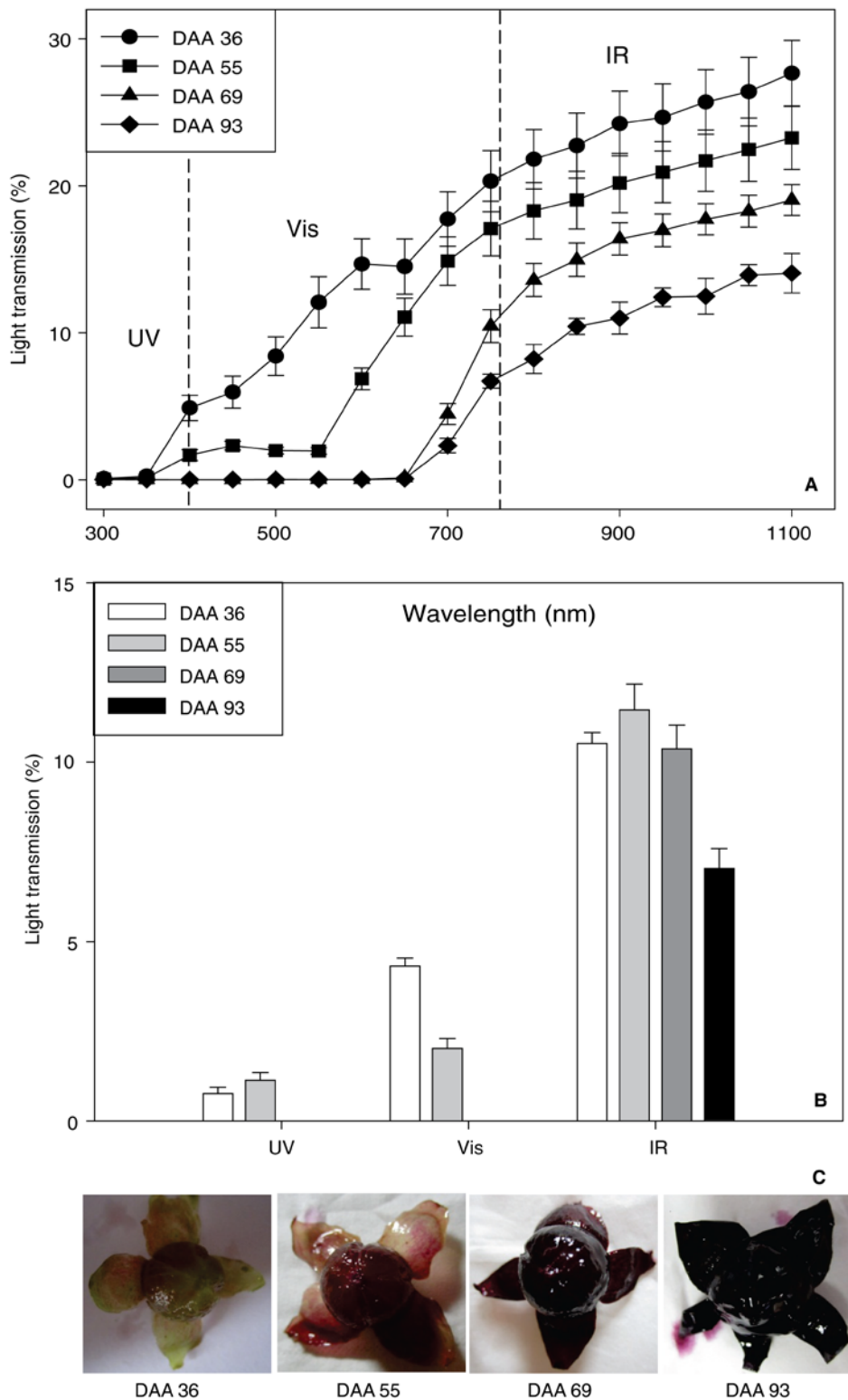
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Supplemental Figure 1 Temperatures inside and outside the box monitored with a temperature and humidity data logger every second during the nine successive days of the study.

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Supplemental Figure 2 Light transmission through Yan-73 berry skin determined by a photometer (A) and a spectrum transmission meter (B). Berries at the four different ages, measured in days after anthesis (DAA), are shown in (C).