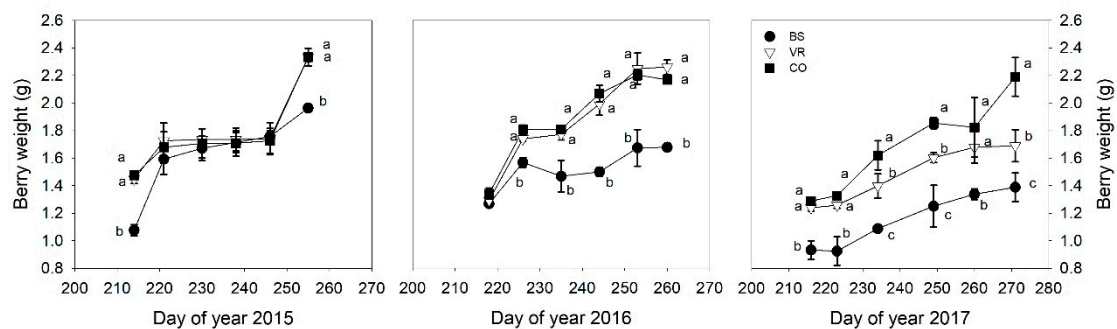
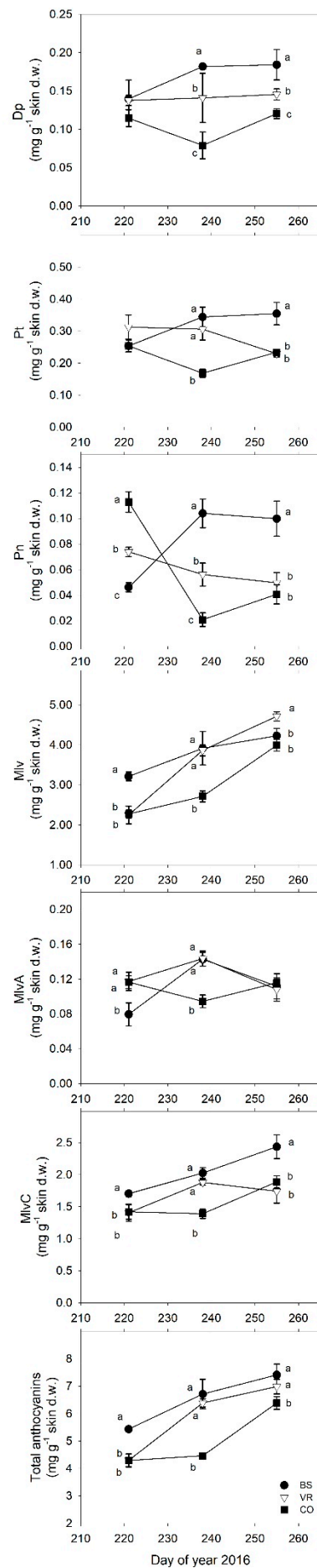


**Suppl. Figure S1.** Evolution of grapevine physiological parameters during ripening. A. stem water potential ( $\Psi_{\text{stem}}$ ) B. stomatal conductance ( $g_s$ ) C. evaporation ( $E$ ) D. net assimilation rate ( $A$ ). Vertical bars indicate the standard deviation of mean values ( $n=3$ ). Significant differences ( $p < 0.05$ ) among treatments within the same sampling day are indicated by different letters based on Duncan's test. BS, vines defoliated at berry set; VR, vines defoliated at veraison; CO, non-defoliated vines.



**Suppl. Figure S2.** Evolution of berry weight during ripening. Vertical bars indicate the standard deviation of mean values (n=3). Significant differences (p<0.05) among treatments within the same sampling day are indicated by different letters based on Duncan's test. BS, vines defoliated at berry set; VR, vines defoliated at veraison; CO, non-defoliated vines.



**Suppl. Figure S3.** Leaf removal effects on anthocyanin content in grape skins during ripening. Anthocyanins: delphinidin-3-O-glucoside (Dp), petunidin-3-O-glucoside (Pt), peonidin-3-O-glucoside (Pn), malvidin-3-O-glucoside (Mv), malvidin-3-O-acetylglucoside (MvA) and malvidin-3-(6-O-p-coumaroyl) glucoside (MvC). Significant differences ( $p < 0.05$ ) are indicated by different letters based on Duncan's test. BS, vines defoliated at berry set; VR, vines defoliated at veraison; CO, non-defoliated vines.

**Suppl. Table S1.** Leaf removal effects on yield parameters. Measurements presented were conducted at harvest ( $n=3$ ). Cluster compactness is the ratio of the number of berries per cluster and cluster length. Within each year and parameter, means followed by a different letter are significantly different at  $p < 0.05$  based on Duncan's test. BS: defoliated vines at berry set; VR: defoliated vines at veraison; CO: non-defoliated vines.

Year	Treatment	Clusters/vine	Cluster Length (cm)	Cluster Width (cm)	Berry number/cluster	Cluster compactness (berries/cm)
2015	BS	22.1 a	17.0	10.1	110 b	6.5 b
	VR	18.5 b	17.2	10.6	152 a	8.8 a
	CO	19.3 b	17.5	10.0	159 a	9.2 a
2016	BS	19.0	16.0	7.2	102 b	6.7 b
	VR	18.0	15.7	9.0	142 a	9.2 a
	CO	18.0	16.2	8.4	146 a	9.5 a
2017	BS	18.2	15.5	10.4	103 b	6.8 b
	VR	18.0	15.1	9.8	143 a	9.6 a
	CO	19.3	15.7	10.4	145 a	9.7 a