

Table S8 Factor loadings and contribution rates of ‘Merlot’ wine quality under different canopy thicknesses

NO.	Quality index	Principal componet			
		2023		2024	
		PC1	PC2	PC1	PC2
1	pH	0.10	0.54	-0.18	0.48
2	Alcohol content (%vol)	0.23	0.42	0.18	0.03
3	Titrateable acid (g·L ⁻¹)	0.22	-0.40	0.29	0.08
4	Volatile acid (g·L ⁻¹)	0.26	0.29	0.36	0.15
5	Phenol (mg·g ⁻¹)	0.34	-0.09	0.28	-0.38
6	Flavonoid (mg·g ⁻¹)	0.34	-0.05	0.38	-0.03
7	Flavan-3-ol (mg·g ⁻¹)	0.33	-0.15	0.34	-0.24
8	Anthsyanin (mg·g ⁻¹)	0.34	-0.11	0.28	0.15
9	Tannin(mg·g ⁻¹)	0.31	-0.26	-0.13	0.51
10	Mono-anthsyanin (mg·L ⁻¹)	0.34	-0.10	0.35	0.20
11	Mono-phenolics(mg·L ⁻¹)	0.32	0.07	0.33	0.15
12	Total aroma (μg·L ⁻¹)	0.22	0.40	0.23	0.44
	Eigenvalue	8.34	2.99	6.76	3.17
	Account %	69.52	24.93	56.36	26.46
	Total Account %	69.52	94.45	56.36	82.82