Table S1. Polyphenol composition of wines and color indices with the corresponding main effect significance levels (95%) and the averages (mg/L).

compound n.	Compound	Italy	California	*p - value regions*	*p - value replicates*
1	**delphinidin-3-*O*-glucoside**	17.81 a	14.81 a	0.0630	0.9995
2	**cyanidin-3-*O*-glucoside**	15.77 b	8.12 a	0.0000	0.9996
3	**petunidin-3-*O*-glucoside**	22.12 a	23.74 b	0.4608	1.0000
4	**peonidin-3-*O*-glucoside**	17.15 b	13.02 a	0.0070	0.9987
5	**malvidin-3-*O*-glucoside**	60.21 a	77.95 b	0.0166	0.9997
6	**(+)-catechin**	70.35 b	24.67 a	0.0000	0.7652
7	**(-)-epicatechin**	70.35 b	28.57 a	0.0000	0.9714
8	**gallic acid**	143.22 b	52.01 a	0.0000	0.9689
9	**caftaric Acid**	47.13 b	38.54 a	0.0243	0.9989
10	**caffeic Acid**	5.24 a	5.00 a	0.8971	0.9990
11	**coutaric acid**	10.06 b	7.25 a	0.0005	0.9968
12	***p*-coumaric acid**	1.21 a	1.51 a	0.4133	0.9998
13	**myrcetin-3-*O*-glucoside**	17.45 a	37.52 b	0.0000	0.9411
14	**myricetin**	7.73 b	1.78 a	0.0000	0.9905
15	**quercetin-3-*O*-galactoside**	4.12 a	6.71 b	0.0020	0.9988
16	**quercetin-3-*O*-glucoside**	4.77 a	69.01 b	0.0000	0.9866
17	**quercetin-3-*O*-glucuronide**	40.34 a	59.06 b	0.0002	0.9441
18	**quercetin-3-*O*-rhamnoside**	1.83 a	5.13 b	0.0000	0.9927
19	**quercetin**	32.46 b	11.21 a	0.0000	0.9998
20	**polymeric phenols**	802.60 b	302.71 a	0.0000	0.2866
21	**pigmented polymers**	289.15 a	233.15 a	0.5951	0.3704
22	**color intensity**	11.67 b	7.24 a	0.0000	0.9999
23	**hue**	0.68 a	0.82 b	0.0000	0.9997
24	**total phenols index**	62.39 b	45.21 a	0.0000	1.0000

Different letters within the same row indicate significant differences

Table S2. Volatile compounds measured in the HS-SPME-GC-MS, with the corresponding main effect significance levels (95%) and the averages (mg/L).

compound n.	Compound	Italy	California	*p - value regions*	*p - value replicates*
1	**ethyl acetate**	20.56 a	29.19 b	0.0000	0.9931
2	**isobuthylacetate**	0.044 a	0.098 b	0.0000	0.9983
3	**ethyl butanoate**	0.052 a	0.095 b	0.0000	0.9986
4	**propan-1-ol**	1.619 a	2.862 b	0.0000	0.9339
5	**ethyl-2-methylbutirate**	0.008 a	0.016 b	0.0000	0.9688
6	**ethylisovalerate**	0.012 a	0.018 b	0.0000	0.9903
7	**2-methylpropan-1-ol**	19.14 a	22.38 a	0.0697	0.9518
8	**3-methylbutyl acetate**	2.33 a	7.99 b	0.0000	0.9981
9	**butan-1-ol**[1]	0.0017 a	0.0025 b	0.0001	0.9612
10	**3-methylbutan-1-ol**	73.54 a	81.57 b	0.0731	0.9063
11	**ethyl hexanoate**	0.484 a	0.634 b	0.0466	0.9959
12	**pentan-1-ol**[1]	0.0003 a	0.0004 b	0.0005	0.8684
13	**isoamylbutanoate (isoamylacetate)**[1]	0.0007 a	0.0011 b	0.0094	0.9834
14	**hexyl acetate**	0.0038 a	0.0297 b	0.0003	0.9897
15	**octan-2-one1**	0.0014 a	0.0019 b	0.1501	0.1952
16	**3-methylpenthan-1-ol**[1]	0.0009 a	0.0012 b	0.0155	0.7927
17	**ethyl eptanoate**	0.0017 a	0.0038 b	0.0000	0.8874
18	**ethyl 2-hydroxypropanoate (ethyl lactate)**	10.61 a	15.49 b	0.0011	0.8188
19	**hexan-1-ol**	1.32 a	2.24 b	0.0000	0.9728
20	**methyl octanoate**[1]	0.004 a	0.004 b	0.9883	0.8380
21	**ethyl octanoate**	0.246 a	0.371 b	0.0000	0.9833
22	**1-octen-3-olo**[1]	0.001 a	0.002 b	0.0867	0.1358
23	**isoamyl hexanoate**[1]	0.012 a	0.012 b	0.8402	0.9972
24	**(2R,5R)-2,6,6-trimethyl-10-methylidene-1-oxaspiro[4.5]dec-8-ene (Vitispirane I)**[1]	0.0013 a	0.0019 b	0.0094	0.9293
25	**riesling acetale**[1]	0.010 a	0.014 b	0.0005	0.8834
26	**ethyl nonanoate**	0.0010 a	0.0014 b	0.0041	0.8537
27	**β-linalool**	0.032 b	0.027 a	0.0001	0.7881
28	**octan-1-ol**	0.079 b	0.060 a	0.0047	0.9898
29	**methyl decanoate**[1]	0.0039 b	0.0036 a	0.4645	0.9535
30	**4-terpineol**[1]	0.00033 b	0.000063 a	0.0000	0.9472
31	**ethyl decanoate**	7.82 a	10.02 b	0.0137	0.9886
32	**isoamyl octanoate**[1]	0.0157 a	0.0224 b	0.003	0.9409
33	**nonan-1-ol**[1]	0.0062 a	0.0064 a	0.7876	0.6852
34	**diethyl butanedioate (diethyl succinate)**	5.65 a	6.12 b	0.7167	0.9901
35	**ethyl dec-9-enoate**[1]	0.0235 a	0.0981 b	0.0006	1.0000
36	**α-terpineol**[1]	0.00088 b	0.00045 a	0.0046	0.6516
37	**(6E)-7,11-dimethyl-3-methylidenedodeca-1,6,10-triene (β-farnesene)**[1]	0.0019 a	0.0022 b	0.5862	0.9850
38	**ethyl undecanoate**	0.0015 a	0.0015 b	0.6060	0.8552
39	**1,1,6-trimethyl-1,2-dihydronaphthalene (TDN)**[1]	0.00099 a	0.00121 b	0.3254	0.9711

40	**α-farnesene[1]**	0.00080 a	0.00087 a	0.4853	0.8571
41	**decan-1-ol[1]**	0.0061 a	0.0063 b	0.7092	0.4257
42	**3,7-dimethyloct-6-en-1-ol (β-citronellol)**	0.0454 a	0.0451 a	0.8383	0.9715
43	**metilsalicilate[1]**	0.00076 b	0.00050 a	0.0013	0.9526
44	**geraniol[1]**	0.000 a	0.00056 b	0.0294	0.9905
45	**2-phenylethyl acetate (β-phenethyl acetate)**	0.0616 a	0.1164 b	0.0122	0.9991
46	**(E)-1-(2,6,6-trimethylcyclohexa-1,3-dien-1-yl)but-2-en-1-one (β-damascenone)**	0.119 a	0.126 b	0.5686	0.9994
47	**ethyl dodecanoate**	0.0124 a	0.0241 b	0.0009	0.9898
48	**nerylacetone[1]**	0.00064 a	0.00060 a	0.7712	0.4953
49	**isoamyl decanoate[1]**	0.0046 a	0.0074 b	0.0058	0.9809
50	**1,7-Octadien-3-ol, 2,6-dimethyl-[1]**	0.0014 a	0.0059 b	0.0002	0.9997
51	**butanedioic acid, ethyl 3-methylbutyl ester[1]**	0.0249 a	0.0194 a	0.1951	0.9847
52	**2-phenylethanol (β-phenylethanol)**	19.44 b	13.65 a	0.0004	0.9024
53	**(±)-trans-nerolidol[1]**	0.0074 b	0.0056 a	0.0165	0.9842
54	**octanoic acid**	1.656 a	2.447 b	0.0000	0.8448
55	**nonanoic acid[1]**	0.0133 a	0.0124 a	0.4839	0.9308
56	**decanoic acid[1]**	0.0907 a	0.0859 a	0.5617	0.9211
57	**dodecanoic acid[1]**	0.0108 a	0.0100 b	0.5375	0.9903

[1]Expressed as octan-2-ol equivalents (mg/L). Different letters within the same row indicate significant differences.