Table S1. Mean, minimum and maximum value of basic enological parameters in the analyzed wines.

		Lactic acid (g/L)	Malic acid (g/L)	Tartaric acid (g/L)	Total acidity (g/L tartaric acid)	pH	Volatile acidity (g/L acetic acid)	Alcohol content (% vol)	Residual reducing sugars (g/L)	Total dry extract (g/L)	Non-reducing extract (g/L)	Free sulfur dioxide (mg/L)	Total sulfur dioxide (mg/L)
Albana	Mean	0.36	1.41	2.36	5.92	3.34	0.41	13.87	2.48	24.3	22.2	11	66
	Min	0.10	0.10	1.30	4.11	3.19	0.27	12.76	1.00	20.8	19.6	5	28
	Max	1.20	2.30	3.20	7.37	3.61	0.62	14.82	7.40	35.6	28.2	19	97
Arneis	Mean	0.46	1.33	2.10	5.26	3.33	0.33	13.43	1.91	20.1	18.5	18	74
	Min	0.10	0.10	1.70	4.32	3.24	0.26	12.73	1.00	18.0	16.9	5	37
	Max	1.60	2.10	2.40	5.88	3.47	0.47	14.49	3.60	22.8	20.3	44	121
Cortese	Mean	0.26	1.54	1.98	5.37	3.25	0.31	12.66	2.53	20.8	18.4	22	77
	Min	0.10	0.50	1.70	4.89	3.17	0.22	12.02	1.00	18.0	16.9	9	51
	Max	1.00	2.20	2.40	6.29	3.38	0.46	13.39	5.10	24.8	21.4	40	130
Erbaluce	Mean	0.43	2.01	2.47	6.46	3.22	0.35	12.49	1.73	22.5	21.0	19	76
	Min	0.10	0.40	1.80	5.43	3.05	0.11	11.80	1.00	20.0	19.3	5	21
	Max	1.50	3.80	3.30	8.46	3.35	0.50	13.22	4.00	26.0	25.0	48	123
Falanghina	Mean	0.21	2.75	1.95	6.24	3.42	0.36	13.46	1.81	22.9	21.6	13	75
	Min	0.10	0.20	1.20	4.75	3.23	0.28	12.98	1.00	21.0	19.3	5	42
	Max	1.50	4.00	2.90	6.95	3.85	0.41	14.50	5.30	25.9	25.4	31	103
Fiano	Mean	0.28	1.75	2.25	5.98	3.33	0.39	13.53	1.58	21.4	20.3	14	66
	Min	0.10	0.10	1.60	5.55	3.21	0.27	12.84	1.00	19.6	18.3	5	39
	Max	1.50	2.50	2.90	6.38	3.47	0.75	14.34	2.80	23.8	22.1	25	104
Garganega	Mean	0.27	1.49	2.53	5.50	3.32	0.29	12.47	3.71	24.1	20.4	19	78
	Min	0.10	0.30	2.00	4.93	3.16	0.16	11.87	1.00	20.4	17.8	5	36
	Max	0.70	2.30	3.20	6.02	3.45	0.44	13.05	10.10	31.2	23.4	39	108
Gewürztraminer	Mean	0.18	1.64	1.62	4.92	3.57	0.42	14.71	5.79	28.4	22.6	22	87
	Min	0.10	0.50	1.20	4.11	3.29	0.33	13.10	1.00	19.4	19.2	7	54
	Max	1.00	2.10	2.20	6.53	3.76	0.56	15.67	17.70	45.0	27.3	32	136
Greco di Tufo	Mean	0.35	1.94	2.25	6.24	3.31	0.38	13.38	1.85	22.9	21.2	14	71
	Min	0.10	0.10	1.60	5.57	3.11	0.25	12.54	1.00	19.8	19.8	5	44
	Max	1.80	2.90	2.90	7.32	3.42	0.58	14.30	4.80	25.6	22.9	23	115
Lugana	Mean	0.22	1.65	2.47	5.93	3.30	0.32	12.87	4.26	26.1	21.9	12	72
	Min	0.10	0.80	1.70	4.96	3.13	0.21	12.23	1.00	21.7	20.0	5	42
	Max	1.00	2.30	3.30	6.68	3.45	0.45	13.76	7.50	30.3	24.1	23	108

Table S1. Continued

Müller Thurgau	Mean	0.11	2.07	2.17	5.80	3.27	0.31	12.39	2.23	21.6	19.5	18	74
	Min	0.10	0.90	1.40	5.22	3.19	0.24	11.88	1.00	18.8	17.5	11	53
	Max	0.20	2.50	2.70	6.48	3.38	0.43	13.32	4.10	24.6	21.4	27	95
Nosiola	Mean	0.58	1.57	2.09	6.03	3.30	0.33	12.18	1.96	22.8	21.1	18	71
	Min	0.10	0.10	1.70	4.64	3.14	0.28	10.86	1.00	19.3	17.5	5	47
	Max	1.80	2.80	2.40	7.36	3.56	0.46	13.33	4.10	25.9	23.3	34	92
Pallagrello Bianco	Mean	0.35	1.43	2.57	5.66	3.33	0.35	13.42	1.72	20.8	19.8	12	71
	Min	0.10	0.40	2.10	4.80	3.13	0.25	12.58	1.00	17.8	17.8	5	37
	Max	1.60	2.40	3.40	6.37	3.52	0.46	14.27	4.40	24.6	23.6	37	119
Pinot Grigio	Mean	0.28	1.63	2.18	5.44	3.34	0.25	12.55	3.48	24.3	20.8	21	82
	Min	0.10	0.80	1.60	5.02	3.14	0.22	11.91	1.20	19.0	17.8	7	55
	Max	0.80	2.60	2.70	6.26	3.48	0.30	13.13	6.70	28.7	23.5	36	121
Ribolla Gialla	Mean	0.32	1.84	2.03	5.62	3.36	0.32	12.75	2.33	22.9	20.8	21	79
	Min	0.10	0.30	1.50	4.80	3.17	0.24	12.19	1.00	20.1	19.9	6	45
	Max	1.20	3.60	2.80	6.67	3.46	0.56	13.50	7.40	28.4	21.8	34	119
Verdicchio	Mean	0.41	1.40	2.26	5.68	3.33	0.40	13.27	2.15	23.0	21.1	21	83
	Min	0.10	0.10	1.90	5.01	3.16	0.29	12.47	1.00	20.4	19.0	5	56
	Max	1.50	2.00	3.00	6.29	3.41	0.46	13.80	5.90	28.7	22.8	35	111
Vermentino	Mean	0.21	1.69	2.12	5.38	3.41	0.28	13.76	1.28	23.0	22.5	13	84
	Min	0.10	1.10	1.50	4.73	3.23	0.12	12.27	1.00	20.1	18.6	5	59
	Max	0.50	2.60	2.80	6.48	3.84	0.40	15.41	2.90	27.8	27.8	35	125
Vernaccia	Mean	0.18	1.59	2.45	5.60	3.32	0.31	12.85	1.24	20.8	20.3	17	70
	Min	0.10	1.30	1.70	4.76	3.20	0.24	12.36	1.00	19.2	19.0	8	49
	Max	0.30	2.00	2.80	6.43	3.44	0.42	13.49	2.20	22.3	21.8	31	90

Table S2. Descriptive and discriminative taste and mouthfeel characteristics specific to each monovarietal wine. Descriptor, Estimated mean, p-value for each combination product-taste/mouthfeel descriptor are reported.

Albana			Arneis			Cortese			Erbaluce			Falanghina			Fiano		
Descriptor	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**
Drying	1.374	< 0.0001	Tingling	0.704	0.006	Bitterness	0.786	0.121	Acidity	3.246	< 0.0001	Drying	0.546	0.002	Sweetness	1.063	0.073
Bitterness	1.057	0.017	Acidity	2.957	0.404	Viscosity	0.628	0.174	Saltiness	0.624	0.001	Acidity	3.061	0.218	Viscosity	0.598	0.091
Viscosity	0.598	0.081	Bitterness	0.934	0.529	Saltiness	0.396	0.224	Tingling	0.722	0.001	Bitterness	0.812	0.293	Saltiness	0.510	0.283
Sweetness	1.141	0.478	Drying	0.712	0.593	Acidity	3.052	0.244	Sweetness	0.917	< 0.0001	Tingling	0.598	0.345	Acidity	3.046	0.343
Acidity	3.019	0.672	Viscosity	0.678	0.644	Sweetness	1.125	0.313	Drying	0.790	0.452	Viscosity	0.732	0.706	Tingling	0.489	0.349
Saltiness	0.436	0.728	Sweetness	1.162	0.692	Drying	0.702	0.449	Bitterness	0.926	0.578	Sweetness	1.213	0.742	Drying	0.798	0.409
Tingling	0.534	0.874	Saltiness	0.473	0.712	Tingling	0.582	0.458	Viscosity	0.675	0.588	Saltiness	0.442	0.830	Bitterness	0.865	0.747

Garganega			Gewürztraminer			Greco di Tufo			Lugana			Müller Thurgau			Nosiola		
Descriptor	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**
Drying	0.493	< 0.0001	Viscosity	1.272	< 0.0001	Acidity	3.119	0.018	Drying	0.579	0.001	Bitterness	0.760	0.076	Acidity	3.127	0.015
Bitterness	0.802	0.250	Sweetness	2.453	< 0.0001	Saltiness	0.575	0.020	Bitterness	0.756	0.023	Acidity	3.074	0.137	Sweetness	0.934	0.001
Sweetness	1.231	0.577	Acidity	2.532	< 0.0001	Drying	0.835	0.160	Saltiness	0.510	0.178	Sweetness	1.099	0.202	Tingling	0.438	0.080
Tingling	0.512	0.607	Saltiness	0.260	< 0.0001	Sweetness	1.160	0.676	Viscosity	0.767	0.257	Saltiness	0.510	0.283	Bitterness	0.766	0.103
Viscosity	0.675	0.629	Drying	0.281	< 0.0001	Tingling	0.564	0.716	Acidity	3.033	0.402	Viscosity	0.748	0.532	Saltiness	0.526	0.181
Saltiness	0.469	0.779	Tingling	0.365	0.001	Bitterness	0.864	0.731	Tingling	0.576	0.472	Tingling	0.524	0.742	Drying	0.771	0.701
Acidity	3.003	0.928	Bitterness	0.921	0.636	Viscosity	0.700	0.907	Sweetness	1.225	0.534	Drying	0.760	0.824	Viscosity	0.720	0.851

Pallagrello			Pinot Grigio			Ribolla Gialla			Verdicchio			Vermentino			Vernaccia		
Descriptor	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**	**Descriptor**	**Estimated mean**	**p-value**
Drying	1.867	< 0.0001	Drying	0.497	< 0.0001	Drying	0.579	0.007	Drying	0.546	0.009	Bitterness	1.076	0.008	Saltiness	0.344	0.096
Bitterness	1.171	0.000	Acidity	2.882	0.026	Bitterness	0.821	0.337	Viscosity	0.620	0.258	Drying	0.637	0.078	Viscosity	0.576	0.106
Tingling	0.402	0.016	Saltiness	0.352	0.063	Acidity	2.958	0.406	Sweetness	1.097	0.273	Acidity	2.945	0.269	Sweetness	1.049	0.117
Sweetness	1.026	0.021	Sweetness	1.135	0.459	Viscosity	0.662	0.466	Tingling	0.618	0.277	Sweetness	1.219	0.673	Drying	0.654	0.252
Viscosity	0.649	0.365	Bitterness	0.852	0.629	Saltiness	0.421	0.520	Acidity	2.968	0.603	Viscosity	0.732	0.699	Bitterness	0.958	0.446
Saltiness	0.418	0.499	Tingling	0.521	0.711	Sweetness	1.168	0.751	Bitterness	0.868	0.811	Tingling	0.545	0.977	Tingling	0.526	0.815
Acidity	2.970	0.562	Viscosity	0.710	0.974	Tingling	0.555	0.830	Saltiness	0.444	0.884	Saltiness	0.454	0.995	Acidity	2.987	0.853

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.
Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean
Black: not significant.

Table S3. Descriptive and discriminative olfactory characteristics specific to each monovarietal wine. Descriptor, Estimated mean, p-value for each combination product-olfactory descriptor are reported. The column "Cluster" refers to the HCA in Figure 2.

Gewürztraminer				Vermentino				Falanghina			
Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value
3	Mango	0.81	< 0.0001	1	Tropical fruit	0.76	< 0.0001	1	Fruity	1.71	< 0.0001
3	Floral	1.51	< 0.0001	1	Aromatic herbs	0.30	0.01	1	Banana	0.46	< 0.0001
3	Rose	2.27	< 0.0001	4	Oxidized	0.37	0.01	4	Sweet odors	0.75	< 0.0001
3	Orange blossom	0.38	< 0.0001	4	Undergrowth	0.20	0.02	3	Floral	0.97	0.03
3	Vanilla	0.46	< 0.0001	4	Dried fruit	0.18	0.04	4	Off-odors	0.30	< 0.0001
1	Tropical fruit	0.70	0.04	2	Mineral	0.43	0.01	2	Mineral	0.37	< 0.0001
1	Fruity	0.68	< 0.0001		Off-odors	0.69	0.09	2	Thiolic (S. Blanc profile)	0.09	0.01
4	Toasted	0.02	< 0.0001		Spicy	0.39	0.11		Smoked	0.03	0.09
4	Lactic	0.06	< 0.0001		Balsamic	0.20	0.16		Boxtree/Cat pee	0.05	0.10
2	Mineral	0.16	< 0.0001		Sweet odors	0.45	0.21		Citric	0.49	0.13
4	Off-odors	0.14	< 0.0001		Smoked	0.05	0.27		Vegetal	0.20	0.16
4	Dried fruit	0.02	< 0.0001		Vanilla	0.14	0.32		Balsamic	0.31	0.17
4	Ethereal/Alcohol	0.03	< 0.0001		Toasted	0.18	0.37		Dehydrated fruit	0.13	0.20
4	Undergrowth	0.02	< 0.0001		Woody	0.10	0.45		Spicy	0.38	0.24
1	Citric	0.39	< 0.0001		Boxtree/Cat pee	0.12	0.48		Tropical fruit	0.64	0.29
1	Balsamic	0.14	< 0.0001		Lactic	0.20	0.52		Passion fruit	0.04	0.29
4	Smoked	0.00	< 0.0001		Grapefruit	0.17	0.58		Undergrowth	0.09	0.30
4	Oxidized	0.10	< 0.0001		Fruity	1.18	0.73		Dried fruit	0.15	0.33
4	Woody	0.04	0.01		Vegetal	0.25	0.75		Orange blossom	0.21	0.36
2	Thiolic (S. Blanc profile)	0.12	0.02		Orange blossom	0.16	0.76		Vanilla	0.23	0.37
2	Boxtree/Cat pee	0.04	0.03		Ethereal/Alcohol	0.17	0.80		Woody	0.10	0.43
4	Dehydrated fruit	0.04	0.04		Dehydrated fruit	0.10	0.82		Oxidized	0.20	0.44
	Vegetal	0.18	0.05		Passion fruit	0.07	0.84		Mango	0.27	0.44
	Grapefruit	0.11	0.06		Rose	0.25	0.85		Aromatic herbs	0.19	0.47
	Spicy	0.25	0.11		Citric	0.57	0.87		Grapefruit	0.16	0.48
	Banana	0.19	0.23		Banana	0.25	0.90		Rose	0.20	0.74
	Passion fruit	0.04	0.40		Mango	0.22	0.92		Toasted	0.16	0.75
	Sweet odors	0.59	0.41		Thiolic (S. Blanc profile)	0.22	0.94		Lactic	0.23	0.76
	Aromatic herbs	0.21	0.80		Floral	0.72	0.97		Ethereal/Alcohol	0.17	0.80

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.

Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean.

Black: not significant.

Table S3. Continued

Greco di Tufo				Garganega				Verdicchio			
Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value
1	Banana	0.41	< 0.0001	1	Citric	0.75	0.01	1	Fruity	1.49	0.01
1	Fruity	1.48	< 0.0001	2	Boxtree/Cat pee	0.16	0.02	2	Mineral	0.78	0.01
3	Vanilla	0.29	0.03	2	Mineral	0.72	0.04	4	Spicy	0.47	0.01
4	Sweet odors	0.69	0.03	1	Fruity	1.39	0.04	1	Citric	0.77	0.02
4	Oxidized	0.13	0.03		Oxidized	0.15	0.07	4	Off-odors	0.34	< 0.0001
2	Mineral	0.46	0.03		Dehydrated fruit	0.05	0.12	4	Oxidized	0.10	0.02
4	Off-odors	0.44	0.04		Rose	0.08	0.13		Balsamic	0.33	0.12
	Rose	0.07	0.08		Vegetal	0.33	0.21		Aromatic herbs	0.28	0.12
	Thiolic (S. Blanc profile)	0.15	0.13		Undergrowth	0.09	0.22		Toasted	0.21	0.16
	Boxtree/Cat pee	0.06	0.17		Balsamic	0.21	0.27		Undergrowth	0.09	0.31
	Spicy	0.26	0.18		Smoked	0.11	0.31		Tropical fruit	0.48	0.32
	Undergrowth	0.09	0.22		Floral	0.59	0.32		Passion fruit	0.03	0.36
	Balsamic	0.30	0.23		Orange blossom	0.12	0.32		Vegetal	0.22	0.37
	Citric	0.66	0.24		Dried fruit	0.10	0.33		Orange blossom	0.22	0.40
	Passion fruit	0.03	0.26		Spicy	0.28	0.46		Rose	0.15	0.49
	Smoked	0.05	0.29		Toasted	0.13	0.48		Sweet odors	0.48	0.50
	Dehydrated fruit	0.12	0.36		Off-odors	0.53	0.51		Vanilla	0.15	0.55
	Aromatic herbs	0.19	0.39		Ethereal/Alcohol	0.14	0.64		Floral	0.78	0.59
	Tropical fruit	0.50	0.41		Mango	0.19	0.67		Mango	0.25	0.66
	Ethereal/Alcohol	0.13	0.49		Tropical fruit	0.53	0.68		Thiolic (S. Blanc profile)	0.20	0.66
	Vegetal	0.25	0.63		Passion fruit	0.06	0.80		Dehydrated fruit	0.08	0.68
	Floral	0.67	0.74		Woody	0.12	0.80		Woody	0.11	0.69
	Grapefruit	0.18	0.80		Thiolic (S. Blanc profile)	0.23	0.85		Grapefruit	0.21	0.72
	Lactic	0.23	0.86		Lactic	0.23	0.87		Dried fruit	0.11	0.77
	Woody	0.12	0.88		Sweet odors	0.55	0.88		Ethereal/Alcohol	0.15	0.81
	Mango	0.22	0.89		Vanilla	0.19	0.90		Boxtree/Cat pee	0.10	0.87
	Toasted	0.15	0.97		Banana	0.25	0.91		Lactic	0.22	0.92
	Dried fruit	0.12	0.98		Grapefruit	0.19	0.98		Smoked	0.08	0.95
	Orange blossom	0.17	1.00		Aromatic herbs	0.22	0.98		Banana	0.24	0.95

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.

Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean.

Black: not significant.

Table S3. Continued

Pinot Grigio				Lugana				Müller Thurgau			
Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value
4	Off-odors (Sulphureous)	0.84	< 0.0001	2	Thiolic (S. Blanc profile)	0.35	< 0.0001	2	Passion fruit	0.34	< 0.0001
2	Mineral	0.76	0.01	1	Aromatic herbs	0.30	< 0.0001	2	Thiolic (S. Blanc profile)	0.57	< 0.0001
1	Citric	0.74	0.02	2	Vegetal	0.38	< 0.0001	2	Boxtree/Cat pee	0.32	< 0.0001
4	Sweet odors	0.35	0.01	2	Mineral	0.74	< 0.0001	1	Tropical fruit	0.79	< 0.0001
3	Floral	0.41	0.01	1	Citric	0.68	0.05	2	Grapefruit	0.34	< 0.0001
1	Aromatic herbs	0.15	0.05	4	Sweet odors	0.38	0.01	1	Aromatic herbs	0.31	< 0.0001
	Lactic	0.29	0.07		Rose	0.09	0.07	2	Vegetal	0.39	0.01
	Smoked	0.13	0.10		Orange blossom	0.11	0.11	2	Mineral	0.74	0.02
	Spicy	0.25	0.13		Dehydrated fruit	0.07	0.21	4	Sweet odors	0.35	0.01
	Vegetal	0.34	0.13		Balsamic	0.22	0.29	4	Oxidized	0.10	0.01
	Rose	0.10	0.18		Floral	0.62	0.31	4	Ethereal/Alcohol	0.08	0.03
	Passion fruit	0.03	0.20		Passion fruit	0.09	0.35	4	Dried fruit	0.06	0.03
	Dehydrated fruit	0.14	0.21		Mango	0.17	0.40		Balsamic	0.18	0.06
	Grapefruit	0.13	0.22		Oxidized	0.28	0.45		Toasted	0.09	0.07
	Toasted	0.19	0.23		Smoked	0.10	0.45		Citric	0.70	0.07
	Thiolic (S. Blanc profile)	0.28	0.24		Grapefruit	0.22	0.52		Vanilla	0.11	0.08
	Ethereal/Alcohol	0.11	0.25		Tropical fruit	0.59	0.60		Dehydrated fruit	0.04	0.09
	Fruity	1.11	0.27		Vanilla	0.20	0.61		Lactic	0.17	0.16
	Balsamic	0.22	0.33		Banana	0.26	0.63		Banana	0.19	0.25
	Mango	0.16	0.39		Dried fruit	0.11	0.66		Woody	0.09	0.27
	Orange blossom	0.14	0.49		Lactic	0.23	0.68		Floral	0.60	0.33
	Boxtree/Cat pee	0.11	0.54		Spicy	0.34	0.69		Smoked	0.05	0.38
	Undergrowth	0.11	0.56		Woody	0.12	0.71		Fruity	1.14	0.39
	Dried fruit	0.14	0.61		Undergrowth	0.12	0.72		Undergrowth	0.16	0.40
	Tropical fruit	0.54	0.77		Toasted	0.14	0.74		Orange blossom	0.20	0.57
	Vanilla	0.18	0.87		Boxtree/Cat pee	0.10	0.86		Off-odors	0.60	0.73
	Oxidized	0.24	0.90		Ethereal/Alcohol	0.15	0.88		Spicy	0.33	0.77
	Woody	0.12	0.91		Fruity	1.22	0.92		Rose	0.21	0.84
	Banana	0.24	0.96		Off-odors	0.58	1.00		Mango	0.21	0.95

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.

Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean.

Black: not significant.

Table S3. Continued

Albana				Pallagrello				Erbaluce			
Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value
4	Off-odors	0.97	< 0.0001	4	Off-odors	1.07	< 0.0001	4	Off-odors	0.74	0.01
4	Ethereal/Alcohol	0.30	< 0.0001	4	Oxidized	0.43	< 0.0001	4	Undergrowth	0.19	0.04
4	Toasted	0.27	< 0.0001	4	Undergrowth	0.24	< 0.0001	1	Banana	0.12	0.01
4	Lactic	0.35	< 0.0001	4	Ethereal/Alcohol	0.26	0.01	3	Rose	0.04	0.03
4	Smoked	0.16	< 0.0001	1	Fruity	0.92	< 0.0001	4	Toasted	0.09	0.04
4	Oxidized	0.40	< 0.0001	1	Tropical fruit	0.38	0.01	4	Dried fruit	0.07	0.05
4	Dehydrated fruit	0.18	< 0.0001	3	Orange blossom	0.07	0.03		Vanilla	0.11	0.06
4	Spicy	0.45	0.01	3	Floral	0.48	0.04		Spicy	0.24	0.07
4	Sweet odors	0.70	0.02	3	Rose	0.04	0.04		Balsamic	0.32	0.07
4	Dried fruit	0.19	0.02	3	Mango	0.08	0.05		Mango	0.11	0.09
4	Woody	0.19	0.04		Vanilla	0.11	0.08		Grapefruit	0.26	0.14
1	Aromatic herbs	0.12	< 0.0001		Grapefruit	0.13	0.15		Woody	0.08	0.20
1	Citric	0.42	0.01		Toasted	0.10	0.17		Mineral	0.66	0.20
1	Balsamic	0.16	0.01		Dehydrated fruit	0.06	0.22		Oxidized	0.30	0.30
2	Boxtree/Cat pee	0.03	0.02		Mineral	0.66	0.23		Citric	0.64	0.31
3	Rose	0.04	0.04		Balsamic	0.30	0.24		Vegetal	0.22	0.32
2	Vegetal	0.18	0.05		Boxtree/Cat pee	0.06	0.25		Smoked	0.10	0.32
	Tropical fruit	0.43	0.06		Banana	0.29	0.30		Lactic	0.19	0.34
	Fruity	1.07	0.09		Citric	0.52	0.32		Thiolic (S. Blanc profile)	0.18	0.42
	Passion fruit	0.02	0.11		Passion fruit	0.04	0.44		Floral	0.64	0.52
	Grapefruit	0.13	0.13		Dried fruit	0.14	0.46		Fruity	1.16	0.54
	Banana	0.18	0.15		Smoked	0.10	0.48		Passion fruit	0.05	0.61
	Floral	0.56	0.17		Vegetal	0.24	0.56		Ethereal/Alcohol	0.14	0.70
	Thiolic (S. Blanc profile)	0.16	0.21		Thiolic (S. Blanc profile)	0.19	0.57		Aromatic herbs	0.20	0.70
	Undergrowth	0.15	0.54		Woody	0.14	0.72		Dehydrated fruit	0.10	0.77
	Mango	0.18	0.61		Spicy	0.30	0.72		Boxtree/Cat pee	0.09	0.87
	Vanilla	0.18	0.83		Aromatic herbs	0.21	0.85		Tropical fruit	0.55	0.88
	Orange blossom	0.17	1.00		Sweet odors	0.53	0.89		Sweet odors	0.53	0.92
	Mineral	0.59	1.00		Lactic	0.22	0.97		Orange blossom	0.17	0.99

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.

Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean.

Black: not significant.

Table S3. Continued

Nosiola				Arneis				Ribolla Gialla			
Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value
4	Woody	0.32	< 0.0001	4	Undergrowth	0.21	0.01	4	Dehydrated fruit	0.18	0.01
4	Ethereal/Alcohol	0.27	< 0.0001	4	Lactic	0.30	0.04	1	Aromatic herbs	0.13	0.01
4	Oxidized	0.42	< 0.0001	1	Tropical fruit	0.37	0.01	4	Off-odors	0.42	0.02
4	Toasted	0.23	0.01	1	Fruity	0.99	0.01	2	Vegetal	0.17	0.03
2	Boxtree/Cat pee	0.16	0.04	3	Floral	0.43	0.02	2	Boxtree/Cat pee	0.04	0.04
1	Fruity	1.01	0.02	1	Citric	0.44	0.02	1	Balsamic	0.18	0.05
1	Banana	0.14	0.04	3	Rose	0.02	0.02		Toasted	0.21	0.06
	Citric	0.47	0.07	3	Mango	0.08	0.04		Citric	0.48	0.09
	Rose	0.10	0.19		Toasted	0.21	0.06		Thiolic (S. Blanc profile)	0.30	0.09
	Orange blossom	0.11	0.24		Smoked	0.13	0.06		Fruity	1.33	0.14
	Off-odors	0.66	0.29		Off-odors	0.71	0.07		Rose	0.11	0.17
	Tropical fruit	0.49	0.32		Grapefruit	0.28	0.08		Lactic	0.17	0.21
	Mango	0.15	0.35		Oxidized	0.33	0.12		Passion fruit	0.10	0.21
	Spicy	0.37	0.36		Banana	0.17	0.16		Spicy	0.38	0.23
	Undergrowth	0.15	0.50		Balsamic	0.21	0.19		Orange blossom	0.12	0.25
	Sweet odors	0.58	0.58		Woody	0.17	0.19		Woody	0.16	0.28
	Passion fruit	0.08	0.60		Mineral	0.67	0.19		Dried fruit	0.15	0.29
	Dehydrated fruit	0.08	0.64		Passion fruit	0.03	0.22		Tropical fruit	0.63	0.36
	Balsamic	0.24	0.69		Dehydrated fruit	0.06	0.22		Oxidized	0.29	0.37
	Dried fruit	0.13	0.70		Sweet odors	0.47	0.31		Vanilla	0.15	0.41
	Thiolic (S. Blanc profile)	0.20	0.71		Aromatic herbs	0.18	0.31		Mango	0.17	0.43
	Vegetal	0.25	0.72		Spicy	0.28	0.39		Mineral	0.55	0.50
	Vanilla	0.17	0.75		Vanilla	0.15	0.49		Banana	0.27	0.57
	Mineral	0.57	0.76		Orange blossom	0.14	0.50		Sweet odors	0.51	0.65
	Aromatic herbs	0.22	0.86		Thiolic (S. Blanc profile)	0.19	0.54		Floral	0.74	0.81
	Lactic	0.21	0.88		Dried fruit	0.13	0.71		Smoked	0.07	0.83
	Smoked	0.07	0.89		Boxtree/Cat pee	0.09	0.74		Undergrowth	0.13	0.92
	Grapefruit	0.20	0.92		Vegetal	0.26	0.90		Grapefruit	0.19	0.93
	Floral	0.71	0.99		Ethereal/Alcohol	0.16	0.94		Ethereal/Alcohol	0.16	0.96

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.

Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean.

Black: not significant.

Table S3. Continued

Cortese				Vernaccia				Fiano			
Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value	Cluster	Descriptor	Estimated mean	p-value
1	Balsamic	0.39	< 0.0001	1	Balsamic	0.43	< 0.0001	3	Passion fruit	0.00	0.02
1	Banana	0.37	0.01		Banana	0.13	0.06		Undergrowth	0.07	0.09
4	Oxidized	0.11	0.01		Vanilla	0.08	0.07		Smoked	0.03	0.09
4	Off-odors	0.46	0.05		Spicy	0.22	0.10		Off-odors	0.47	0.10
	Woody	0.08	0.12		Sweet odors	0.67	0.14		Dried fruit	0.17	0.12
	Dehydrated fruit	0.05	0.13		Toasted	0.09	0.16		Spicy	0.25	0.13
	Ethereal/Alcohol	0.11	0.16		Boxtree/Cat pee	0.05	0.23		Rose	0.11	0.19
	Dried fruit	0.09	0.18		Mineral	0.68	0.26		Floral	0.85	0.21
	Toasted	0.11	0.20		Off-odors	0.48	0.27		Vegetal	0.32	0.24
	Rose	0.14	0.31		Fruity	1.32	0.28		Grapefruit	0.25	0.26
	Sweet odors	0.60	0.33		Woody	0.08	0.31		Mineral	0.52	0.28
	Fruity	1.28	0.33		Vegetal	0.33	0.32		Citric	0.65	0.28
	Mango	0.16	0.36		Rose	0.13	0.37		Fruity	1.30	0.29
	Vanilla	0.22	0.38		Dehydrated fruit	0.13	0.40		Toasted	0.12	0.30
	Vegetal	0.30	0.39		Grapefruit	0.15	0.42		Thiolic (S. Blanc profile)	0.17	0.31
	Tropical fruit	0.62	0.40		Citric	0.52	0.44		Lactic	0.26	0.33
	Undergrowth	0.10	0.41		Undergrowth	0.10	0.45		Vanilla	0.22	0.43
	Orange blossom	0.20	0.43		Thiolic (S. Blanc profile)	0.18	0.55		Boxtree/Cat pee	0.07	0.44
	Boxtree/Cat pee	0.08	0.44		Lactic	0.19	0.57		Mango	0.25	0.65
	Spicy	0.35	0.50		Dried fruit	0.14	0.60		Sweet odors	0.51	0.68
	Citric	0.62	0.51		Orange blossom	0.19	0.69		Dehydrated fruit	0.11	0.70
	Aromatic herbs	0.23	0.54		Floral	0.77	0.69		Ethereal/Alcohol	0.14	0.71
	Mineral	0.56	0.62		Oxidized	0.22	0.73		Orange blossom	0.18	0.83
	Floral	0.75	0.73		Passion fruit	0.05	0.77		Balsamic	0.25	0.89
	Passion fruit	0.06	0.81		Mango	0.19	0.79		Woody	0.12	0.92
	Thiolic (S. Blanc profile)	0.21	0.82		Smoked	0.07	0.81		Oxidized	0.24	0.94
	Lactic	0.23	0.87		Aromatic herbs	0.22	0.85		Banana	0.24	0.94
	Grapefruit	0.20	0.96		Ethereal/Alcohol	0.15	0.86		Tropical fruit	0.56	0.97
	Smoked	0.08	0.97		Tropical fruit	0.56	0.99		Aromatic herbs	0.22	0.99

Blue: positive model coefficients for descriptors with adjusted means significantly higher than the global mean.

Red: negative model coefficients for descriptors with adjusted means significantly lower than the global mean.

Black: not significant.