SUPPLEMENTARY DATA

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I. ORIGINAL WINES – ANALYTICAL CHARACTERIZATION

1) 2018 WINE

Table S1 : analytical characterization of 2018 wine

	Result	Unit	Quantification limit	Detection limit	Uncertainty (95%)
Alcoholic strength	14.25	% vol.			0.150
Glucose + Fructose	≤ 1.0	g/L	1.0	0.33	N/V
Total acidity	3.41	g/L eq. H_2SO_4	2.0		0.180
Volatil acidity	0.52	g/L eq. H_2SO_4			0.050
Total SO_2	19	mg/L	10.0	3.3	15.0
Free SO_2	14	mg/L	5.0	1.667	6.0
pH	3.94				0.080
Malic acid	nd	g/L	0.2	0.1	N/V
Lactic acid	2	g/L	0.2	0.1	0.30
Total polyphenol content	65		5.0		6.0
CO_2	260	mg/L	100.0		130
Active SO_2	0.17	mg/L			0.000
Copper	0.3	mg/L	0.2		0.20
Iron	2.7	mg/L	0.5		0.50

2) 2014 WINE

Table S2 : analytical characterization of 2014 wine

	Result	Unit	Quantification limit	Detection limit	Uncertainty (95%)
Alcoholic strength	14.24	% vol.			0.150

Glucose + Fructose	nd	g/L	1.0	0.33	N/V
Total acidity	3.27	g/L eq. H_2SO_4	2.0		0.180
Volatil acidity	0.5	g/L eq. H_2SO_4			0.050
Total SO_2	≤ 10.0	mg/L	10.0	3.3	N/A
Free SO_2	≤ 5.0	mg/L	5.0	1.667	N/A
pH	3.73				0.080
Malic acid	nd	g/L	0.2	0.1	N/V
Lactic acid	1.5	g/L	0.2	0.1	0.30
Total polyphenol content	58		5.0		6.0
CO_2	510	mg/L	100.0		130
Active SO_2	0.1	mg/L			0.000
Copper	0.3	mg/L	0.2		0.20
Iron	2.7	mg/L	0.5		0.50

3) 2010 WINE

Table S3 : analytical characterization of 2010 wine

	Result	Unit	Quantification limit	Detection limit	Uncertainty (95%)
Alcoholic strength	14.13	% vol.			0.150
Glucose + Fructose	nd	g/L	1.0	0.33	N/V
Total acidity	3.03	g/L eq. H_2SO_4	2.0		0.180
Volatil acidity	0.43	g/L eq. H_2SO_4			0.050
Total SO_2	nd	mg/L	10.0	3.3	N/V
Free SO_2	≤ 5.0	mg/L	5.0	1.667	N/V
pH	3.83				0.080
Malic acid	nd	g/L	0.2	0.1	N/V
Lactic acid	1.2	g/L	0.2	0.1	0.30
Total polyphenol content	72		5.0		6.0

CO_2	440	mg/L	100.0		130
Active SO_2	0.06	mg/L			0.000
Copper	0.3	mg/L	0.2		0.20
Iron	2.7	mg/L	0.5		0.50

II. FORCED AGEING PROTOCOLS

1) 2018 WINE

a. Reference at 22°C

Table S4 : evolution of dissolved oxygen in 2018 red wine at 22 °C

Time (h)	Temperature (°C)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Oxygen (ppm) n4	Mean	Standard deviation	Variation coefficient (%)
0	22	6,784	6,778	7,148	7,264	6,9935	0,24991399	3,57351806
0,167	22	6,747	6,76	7,122	7,247	6,969	0,25407217	3,64574786
0,334	22	6,747	6,76	7,057	7,214	6,9445	0,2297339	3,30814175
0,5	22	6,681	6,717	7,018	7,189	6,90125	0,24419169	3,53836905

0,667	22	6,657	6,693	7,076	7,11	6,884	0,24217762	3,51797822
0,834	22	6,633	6,657	6,999	7,11	6,84975	0,24092789	3,5173239
1	22	6,615	6,644	7,044	7,058	6,84025	0,24370799	3,56285206
1,167	22	6,556	6,62	6,961	7,031	6,792	0,2387202	3,51472613
1,334	22	6,526	6,602	6,961	7,051	6,785	0,25968057	3,82727447
1,5	22	6,497	6,585	6,917	6,999	6,7495	0,24571189	3,64044582
1,667	22	6,462	6,561	6,867	6,917	6,70175	0,22429947	3,34687902
1,834	22	6,422	6,579	6,804	6,873	6,6695	0,20732342	3,10853016
2	22	6,404	6,544	6,78	6,848	6,644	0,2063266	3,10545758
2,167	22	6,37	6,543	6,743	6,823	6,61975	0,20393361	3,08068444
2,334	22	6,314	6,526	6,67	6,78	6,5725	0,20128504	3,06253387
2,5	22	6,269	6,529	6,694	6,707	6,54975	0,20394995	3,11385859
2,667	22	6,235	6,496	6,616	6,658	6,50125	0,19031093	2,92729752
2,834	22	6,252	6,479	6,616	6,67	6,50425	0,18639452	2,86573423
3	22	6,175	6,444	6,516	6,628	6,44075	0,19266443	2,99133536
3,167	22	6,142	6,393	6,504	6,581	6,405	0,19156374	2,99084685
3,334	22	6,12	6,393	6,423	6,533	6,36725	0,17547721	2,75593398
3,5	22	6,082	6,364	6,446	6,51	6,3505	0,18871054	2,97158549

3,667	22	6,061	6,387	6,36	6,487	6,32375	0,18348728	2,90155816
3,834	22	6,034	6,341	6,371	6,417	6,29075	0,17399689	2,76591642
4	22	6,002	6,366	6,326	6,36	6,2635	0,17522081	2,79749043
4,167	22	5,965	6,33	6,286	6,36	6,23525	0,18271175	2,93030351
4,334	22	5,949	6,358	6,247	6,326	6,22	0,18659225	2,99987535
4,5	22	5,907	6,319	6,219	6,292	6,18425	0,18959848	3,06582818
4,667	22	5,881	6,316	6,191	6,236	6,156	0,19048185	3,094247
4,834	22	5,86	6,263	6,137	6,238	6,1245	0,18455442	3,01337935
5	22	5,794	6,26	6,158	6,153	6,09125	0,20420802	3,3524814
5,167	22	5,773	6,258	6,088	6,153	6,068	0,20876622	3,44044524
5,334	22	5,776	6,261	6,077	6,12	6,0585	0,2040727	3,36837005
5,5	22	5,728	6,256	6,05	6,12	6,0385	0,22397247	3,70907458
5,667	22	5,728	6,235	6,023	6,093	6,01975	0,21356244	3,5476962
5,834	22	5,708	6,185	5,986	6,023	5,9755	0,19816912	3,31636047
6	22	5,678	6,235	5,939	6,039	5,97275	0,23179067	3,88080322
6,167	22	5,648	6,158	5,897	6,037	5,935	0,21904794	3,69078248
6,334	22	5,594	6,174	5,886	6,007	5,91525	0,24455862	4,13437498
6,5	22	5,592	6,158	5,884	5,991	5,90625	0,23791367	4,02816804

6,667	22	5,56	6,13	5,835	5,981	5,8765	0,24295198	4,13429736
6,834	22	5,531	6,112	5,789	5,978	5,8525	0,25198214	4,30554707
7	22	5,493	6,108	5,789	5,912	5,8255	0,2576671	4,42308983

b. 60°C

Table S5 : evolution of dissolved oxygen in 2018 red wine at 60 °C

Time (h)	Temperature (°C)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Mean	Standard deviation	Variation coefficient (%)
0	59.9	5.912	5.855	5.49	5.88	0.04	0.69
0.167	62.7	5.362	5.504	5.063	5.31	0.23	4.24
0.334	63.4	5.04	5.106	4.703	4.95	0.22	4.37
0.5	63.2	4.619	4.708	4.12	4.48	0.32	7.07
0.667	63.4	4.229	4.264	3.766	4.09	0.28	6.80
0.834	63.6	3.866	3.806	3.41	3.69	0.25	6.71
1	63.6	3.486	3.427	3.247	3.39	0.12	3.68
1.167	63.5	3.186	3.124	2.858	3.06	0.17	5.70
1.334	63.6	2.865	2.784	2.564	2.74	0.16	5.69
1.5	63.8	2.575	2.459	2.316	2.45	0.13	5.30
1.667	63.6	2.322	2.234	2.028	2.19	0.15	6.88

1.834	63.6	2.101	1.982	1.79	1.96	0.16	8.02
2	63.7	1.907	1.761	1.562	1.74	0.17	9.93
2.167	63.8	1.722	1.537	1.482	1.58	0.13	7.96
2.334	63.7	1.52	1.359	1.321	1.40	0.11	7.55
2.5	63.7	1.365	1.183	1.115	1.22	0.13	10.59
2.667	63.6	1.228	1.035	0.958	1.07	0.14	12.95
2.834	63.6	1.088	0.895	0.815	0.93	0.14	15.05
3	63.7	0.973	0.761	0.695	0.81	0.15	17.94
3.167	63.5	0.854	0.647	0.58	0.69	0.14	20.59
3.334	63.4	0.754	0.543	0.48	0.59	0.14	24.23
3.5	63.4	0.657	0.453	0.395	0.50	0.14	27.43
3.667	63.5	0.584	0.372	0.323	0.43	0.14	32.54
3.834	63.4	0.434	0.306	0.266	0.34	0.09	26.17
4	63.4	0.277	0.254	0.207	0.25	0.04	14.50
4.167	63.4	0.252	0.207	0.169	0.21	0.04	19.85
4.334	63.4	0.22	0.169	0.14	0.18	0.04	22.97
4.5	63.5	0.195	0.146	0.116	0.15	0.04	26.18
4.667	63.3	0.175	0.132	0.103	0.14	0.04	26.51
4.834	63.3	0.16	0.118	0.093	0.12	0.03	27.38

5	63.1	0.151	0.113	0.086	0.12	0.03	27.99
5.167	63.1	0.143	0.103	0.083	0.11	0.03	27.86
5.334	63.2	0.135	0.102	0.079	0.11	0.03	26.72
5.5	62.6	0.131	0.1	0.078	0.10	0.03	25.85
5.667	62.6	0.13	0.096	0.073	0.10	0.03	28.77
5.834	62.9	0.127	0.098	0.074	0.10	0.03	26.63
6	63.4	0.127	0.098	0.074	0.10	0.03	26.63
6.167	63.4	0.127	0.097	0.073	0.10	0.03	27.33
6.334	63.3	0.124	0.099	0.07	0.10	0.03	27.67
6.5	63.5	0.125	0.097	0.075	0.10	0.03	25.31
6.667	63.5	0.125	0.097	0.071	0.10	0.03	27.65
6.834	63.5	0.124	0.099	0.071	0.10	0.03	27.06
7	63.5	0.123	0.101	0.072	0.10	0.03	25.93

c. Laccase

Table S6 : evolution of dissolved oxygen in 2018 red wine - laccase oxidation test

Time (h)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Mean	Standard deviation	Variation coefficient (%)

0	6.733	6.668	6.809	6.74	0.07	1.05
0.167	5.995	6.093	5.869	5.99	0.11	1.88
0.333	5.291	5.576	5.365	5.41	0.15	2.73
0.5	4.704	4.894	4.777	4.79	0.10	2.00
0.667	4.178	4.156	4.296	4.21	0.08	1.79
0.833	3.739	3.783	3.87	3.80	0.07	1.76
1	3.353	3.584	3.293	3.41	0.15	4.51
1.167	2.957	3.285	2.684	2.98	0.30	10.11
1.333	2.664	2.96	2.251	2.63	0.36	13.57
1.5	2.367	2.556	1.974	2.30	0.30	12.91
1.667	2.132	2.115	1.732	1.99	0.23	11.35
1.833	1.906	1.636	1.527	1.69	0.20	11.55
2	1.715	1.394	1.345	1.48	0.20	13.54
2.167	1.54	1.213	1.195	1.32	0.19	14.76
2.333	1.384	1.108	1.067	1.19	0.17	14.53
2.5	1.264	1.017	0.953	1.08	0.16	15.23
2.667	1.157	0.955	0.863	0.99	0.15	15.17
2.833	1.057	1.032	0.792	0.96	0.15	15.24
3	0.978	1.023	0.727	0.91	0.16	17.54

3.167	0.896	0.975	0.684	0.85	0.15	17.67
3.333	0.839	0.923	0.641	0.80	0.14	18.08
3.5	0.783	0.881	0.613	0.76	0.14	17.87
3.667	0.741	0.822	0.583	0.72	0.12	16.99
3.833	0.693	0.81	0.554	0.69	0.13	18.69
4	0.653	0.796	0.526	0.66	0.14	20.52
4.167	0.619	0.754	0.506	0.63	0.12	19.82
4.333	0.59	0.751	0.485	0.61	0.13	22.01
4.5	0.561	0.699	0.468	0.58	0.12	20.18
4.667	0.546	0.66	0.463	0.56	0.10	17.78
4.833	0.523	0.68	0.457	0.55	0.11	20.70
5	0.499	0.681	0.438	0.54	0.13	23.44
5.167	0.479	0.49	0.427	0.47	0.03	7.23
5.333	0.461	0.484	0.421	0.46	0.03	7.00
5.5	0.442	0.473	0.41	0.44	0.03	7.13
5.667	0.431	0.448	0.401	0.43	0.02	5.58
5.833	0.418	0.435	0.395	0.42	0.02	4.83
6	0.405	0.42	0.389	0.40	0.02	3.83
6.167	0.394	0.411	0.38	0.40	0.02	3.93

6.333	0.382	0.394	0.38	0.39	0.01	1.97
6.5	0.372	0.376	0.37	0.37	0.00	0.82
6.667	0.36	0.375	0.365	0.37	0.01	2.08
6.833	0.348	0.363	0.353	0.35	0.01	2.15
7	0.344	0.362	0.355	0.35	0.01	2.57

d. hydrogen peroxide

Table S7 : evolution of dissolved oxygen in 2018 red wine – hydrogen peroxide oxidation test

Time (h)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	mean	Standard deviation	Variation coefficient (%)
0	6.231	7.099	7.167	6.83	0.52	7.64
0.167	5.69	6.696	6.873	6.42	0.64	9.94
0.334	5.186	6.179	6.113	5.83	0.56	9.53
0.5	4.794	5.74	5.474	5.34	0.49	9.14
0.667	4.393	5.277	4.97	4.88	0.45	9.20
0.834	4.045	4.907	4.549	4.50	0.43	9.62
1	3.724	4.522	4.163	4.14	0.40	9.66
1.167	3.428	4.139	3.838	3.80	0.36	9.39
1.334	3.142	3.8	3.506	3.48	0.33	9.46

1.5	2.883	3.46	3.214	3.19	0.29	9.09
1.667	2.655	3.128	2.928	2.90	0.24	8.18
1.834	2.407	2.803	2.662	2.62	0.20	7.65
2	2.182	2.484	2.405	2.36	0.16	6.64
2.167	1.972	2.215	2.16	2.12	0.13	6.02
2.334	1.776	1.934	1.93	1.88	0.09	4.79
2.5	1.586	1.675	1.7	1.65	0.06	3.62
2.667	1.439	1.461	1.485	1.46	0.02	1.57
2.834	1.297	1.222	1.291	1.27	0.04	3.28
3	1.143	1.062	1.113	1.11	0.04	3.70
3.167	1.02	0.903	0.946	0.96	0.06	6.19
3.334	0.904	0.733	0.792	0.81	0.09	10.73
3.5	0.813	0.597	0.658	0.69	0.11	16.15
3.667	0.724	0.478	0.537	0.58	0.13	22.16
3.834	0.633	0.378	0.438	0.48	0.13	27.60
4	0.575	0.29	0.354	0.41	0.15	36.80
4.167	0.529	0.245	0.302	0.36	0.15	41.89
4.334	0.478	0.215	0.264	0.32	0.14	43.84
4.5	0.449	0.194	0.243	0.30	0.14	45.82

4.667	0.419	0.178	0.233	0.28	0.13	45.65
4.834	0.395	0.169	0.228	0.26	0.12	44.40
5	0.379	0.158	0.222	0.25	0.11	44.95
5.167	0.337	0.154	0.222	0.24	0.09	38.92
5.334	0.323	0.154	0.218	0.23	0.09	36.83
5.5	0.308	0.148	0.217	0.22	0.08	35.77
5.667	0.295	0.145	0.22	0.22	0.08	34.09
5.834	0.286	0.144	0.219	0.22	0.07	32.84
6	0.276	0.141	0.216	0.21	0.07	32.06
6.167	0.264	0.143	0.216	0.21	0.06	29.34
6.334	0.252	0.141	0.216	0.20	0.06	27.90
6.5	0.244	0.142	0.213	0.20	0.05	26.19
6.667	0.24	0.144	0.218	0.20	0.05	25.06
6.834	0.235	0.144	0.22	0.20	0.05	24.44
7	0.232	0.141	0.216	0.20	0.05	24.75

2) 2014 WINE

a. 60°C

Table S8 : evolution of dissolved oxygen in 2014 red wine at 60 °C

Time (h)	Temperature (°C)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Oxygen (ppm) n4	Mean	Standard deviation	Variation coefficient (%)
0	59.7	5.444	5.89	6.629	5.288	5.813	0.601	10.339
0.167	60	5.323	5.441	6.125	5.195	5.521	0.415	7.517
0.334	60	5.15	5.17	5.77	4.852	5.236	0.385	7.351
0.5	60.1	4.788	4.927	5.353	4.501	4.892	0.355	7.250
0.667	60.1	4.627	4.634	5.008	4.231	4.625	0.317	6.860
0.834	60.1	4.473	4.374	4.585	3.956	4.347	0.275	6.316
1	60.1	4.159	4.165	4.169	3.711	4.051	0.227	5.596
1.167	60	3.969	3.856	3.852	3.478	3.789	0.214	5.652
1.334	60.3	3.722	3.706	3.591	3.246	3.566	0.221	6.206
1.5	60.1	3.565	3.506	3.281	3.022	3.344	0.247	7.382
1.667	60.1	3.416	3.359	2.967	2.848	3.148	0.282	8.969
1.834	60.1	3.205	3.169	2.722	2.624	2.930	0.300	10.232
2	60.3	3.013	2.992	2.503	2.456	2.741	0.303	11.043
2.167	60.3	2.858	2.898	2.304	2.269	2.582	0.342	13.252
2.334	60.3	2.724	2.731	2.112	2.105	2.418	0.357	14.781
2.5	60.3	2.612	2.635	1.927	1.939	2.278	0.399	17.505
2.667	60.3	2.423	2.558	1.767	1.792	2.135	0.414	19.405

2.834	60.3	2.291	2.44	1.629	1.636	1.999	0.428	21.389
3	60.3	2.146	2.326	1.491	1.497	1.865	0.435	23.306
3.167	60.3	2.044	2.257	1.372	1.361	1.759	0.461	26.212
3.334	60.4	2.01	2.164	1.254	1.244	1.668	0.488	29.251
3.5	60.2	1.898	2.065	1.14	1.139	1.561	0.491	31.457
3.667	60.3	1.773	1.939	1.035	1.036	1.446	0.479	33.100
3.834	60.3	1.677	1.846	0.941	0.933	1.349	0.481	35.650
4	60.3	1.581	1.748	0.853	0.846	1.257	0.475	37.825
4.167	59.8	1.441	1.606	0.771	0.759	1.144	0.443	38.724
4.334	59.6	1.317	1.521	0.689	0.683	1.053	0.431	40.981
4.5	59.8	1.234	1.45	0.622	0.619	0.981	0.426	43.393
4.667	59.5	1.145	1.379	0.556	0.553	0.908	0.419	46.188
4.834	59.6	1.083	1.308	0.499	0.498	0.847	0.413	48.732
5	59.8	1.056	1.226	0.451	0.448	0.795	0.405	50.956
5.167	60.1	1.003	1.158	0.403	0.4	0.741	0.397	53.589
5.334	60.1	0.924	1.117	0.362	0.364	0.692	0.388	56.046
5.5	60.3	0.848	1.058	0.326	0.326	0.640	0.372	58.172
5.667	60.2	0.783	1.004	0.297	0.292	0.594	0.357	60.171
5.834	59.7	0.725	0.956	0.269	0.259	0.552	0.346	62.647

6	59.8	0.681	0.953	0.246	0.231	0.528	0.352	66.703
6.167	59.8	0.653	0.91	0.222	0.209	0.499	0.343	68.857
6.334	60	0.618	0.857	0.203	0.189	0.467	0.328	70.178
6.5	60.1	0.567	0.806	0.188	0.169	0.433	0.309	71.490
6.667	60.1	0.521	0.732	0.172	0.158	0.396	0.280	70.773
6.834	59.9	0.484	0.685	0.158	0.142	0.367	0.264	71.891
7	59.5	0.438	0.639	0.148	0.134	0.340	0.244	71.757

b. Laccase

Table S9 : evolution of dissolved oxygen in 2014 red wine – laccase test

Time (h)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Oxygen (ppm) n4	Oxygen (ppm) n5	Mean	Standard deviation	Variation coefficient (%)
0	7.044	6.859	6.897	7.099	7.217	7.023	0.147	2.095
0.083	6.798	6.639	6.681	6.92	7.066	6.821	0.175	2.572
0.167	6.545	6.359	6.468	6.753	6.952	6.615	0.237	3.582
0.25	6.36	6.126	6.28	6.537	6.777	6.416	0.250	3.902
0.333	6.115	5.949	6.061	6.341	6.662	6.226	0.283	4.540
0.417	5.913	5.738	5.897	6.169	6.496	6.043	0.297	4.912
0.5	5.728	5.521	5.713	5.986	6.246	5.839	0.281	4.818
0.583	5.435	5.342	5.521	5.789	6.125	5.642	0.317	5.621

0.667	5.268	5.124	5.295	5.609	5.965	5.452	0.337	6.178
0.75	5.063	4.951	5.106	5.454	5.809	5.277	0.352	6.671
0.833	4.854	4.788	4.934	5.273	5.624	5.095	0.350	6.868
0.917	4.658	4.65	4.743	5.107	5.493	4.930	0.366	7.422
1	4.275	4.468	4.591	4.804	5.273	4.682	0.382	8.160
1.083	3.954	4.322	4.404	4.599	5.191	4.494	0.454	10.112
1.167	3.872	4.171	4.249	4.449	5.019	4.352	0.427	9.803
1.25	3.69	4.022	4.108	4.315	4.833	4.194	0.422	10.074
1.333	3.537	3.868	3.938	4.164	4.679	4.037	0.423	10.484
1.417	3.397	3.73	3.784	4.012	4.545	3.894	0.425	10.925
1.5	3.226	3.582	3.643	3.889	4.442	3.756	0.451	11.996
1.583	3.084	3.446	3.49	3.734	4.268	3.604	0.438	12.142
1.667	2.971	3.314	3.348	3.595	4.143	3.474	0.435	12.519
1.75	2.864	3.182	3.218	3.496	4.002	3.352	0.427	12.728
1.833	2.727	3.066	3.081	3.357	3.872	3.221	0.427	13.264
1.917	2.569	2.93	2.943	3.213	3.747	3.080	0.437	14.197
2	2.451	2.825	2.834	3.084	3.613	2.961	0.429	14.475
2.083	2.335	2.699	2.722	2.961	3.481	2.840	0.423	14.882
2.167	2.215	2.589	2.589	2.847	3.38	2.724	0.430	15.801

2.25	2.097	2.49	2.468	2.717	3.273	2.609	0.433	16.583
2.333	1.994	2.391	2.368	2.6	3.161	2.503	0.428	17.095
2.417	1.897	2.284	2.259	2.494	3.063	2.399	0.429	17.862
2.5	1.791	2.166	2.174	2.385	2.948	2.293	0.424	18.501
2.583	1.666	2.091	2.072	2.29	2.832	2.190	0.424	19.377
2.667	1.6	1.985	1.974	2.186	2.741	2.097	0.418	19.909
2.75	1.5	1.902	1.883	2.089	2.662	2.007	0.424	21.125
2.833	1.416	1.82	1.785	1.978	2.544	1.909	0.411	21.513
2.917	1.258	1.748	1.7	1.891	2.449	1.809	0.429	23.702
3	1.152	1.651	1.616	1.811	2.362	1.718	0.435	25.343
3.083	1.128	1.587	1.535	1.735	2.277	1.652	0.415	25.135
3.167	1.107	1.512	1.462	1.645	2.151	1.575	0.378	24.013
3.25	1.049	1.435	1.382	1.553	2.024	1.489	0.353	23.710
3.333	0.985	1.373	1.313	1.482	1.963	1.423	0.354	24.880
3.417	0.923	1.302	1.248	1.408	1.904	1.357	0.355	26.186
3.5	0.865	1.247	1.179	1.337	1.886	1.303	0.371	28.499
3.583	0.812	1.19	1.119	1.269	1.77	1.232	0.347	28.169
3.667	0.757	1.124	1.06	1.203	1.673	1.163	0.331	28.465
3.75	0.711	1.074	1.001	1.141	1.614	1.108	0.327	29.494

3.833	0.677	1.021	0.946	1.085	1.511	1.048	0.302	28.805
3.917	0.656	0.973	0.894	1.039	1.439	1.000	0.285	28.479
4	0.626	0.937	0.844	0.997	1.38	0.957	0.275	28.778
4.083	0.589	0.881	0.799	0.946	1.307	0.904	0.262	28.989
4.167	0.565	0.852	0.757	0.9	1.248	0.864	0.250	28.907
4.25	0.527	0.804	0.714	0.858	1.196	0.820	0.245	29.889
4.333	0.498	0.768	0.676	0.801	1.132	0.775	0.232	29.894
4.417	0.475	0.735	0.639	0.756	1.062	0.733	0.215	29.258
4.5	0.449	0.698	0.608	0.717	1.006	0.696	0.203	29.224
4.583	0.425	0.665	0.572	0.69	0.971	0.665	0.200	30.141
4.667	0.398	0.636	0.544	0.648	0.948	0.635	0.202	31.760
4.75	0.381	0.606	0.518	0.602	0.919	0.605	0.198	32.668
4.833	0.368	0.582	0.486	0.57	0.881	0.577	0.190	32.912
4.917	0.348	0.558	0.46	0.551	0.847	0.553	0.185	33.495
5	0.341	0.536	0.436	0.525	0.796	0.527	0.170	32.232
5.083	0.331	0.516	0.416	0.497	0.75	0.502	0.157	31.238
5.167	0.321	0.495	0.396	0.473	0.704	0.478	0.144	30.105
5.25	0.306	0.475	0.377	0.453	0.664	0.455	0.135	29.562
5.333	0.298	0.461	0.355	0.43	0.626	0.434	0.125	28.766

5.417	0.284	0.442	0.343	0.418	0.599	0.417	0.119	28.592
5.5	0.273	0.43	0.327	0.406	0.568	0.401	0.112	28.066
5.583	0.266	0.412	0.311	0.389	0.54	0.384	0.105	27.464
5.667	0.266	0.4	0.302	0.37	0.516	0.371	0.097	26.165
5.75	0.256	0.377	0.287	0.358	0.498	0.355	0.094	26.472
5.833	0.248	0.374	0.277	0.343	0.477	0.344	0.090	26.135
5.917	0.243	0.358	0.268	0.33	0.441	0.328	0.078	23.860
6	0.239	0.347	0.258	0.318	0.425	0.317	0.074	23.434
6.083	0.236	0.343	0.247	0.307	0.421	0.311	0.076	24.324
6.167	0.232	0.334	0.24	0.295	0.455	0.311	0.091	29.100
6.25	0.226	0.33	0.231	0.283	0.413	0.297	0.078	26.190
6.333	0.225	0.326	0.225	0.271	0.352	0.280	0.058	20.710
6.417	0.223	0.311	0.22	0.263	0.342	0.272	0.054	19.819
6.5	0.223	0.304	0.216	0.258	0.356	0.271	0.059	21.651
6.583	0.219	0.3	0.215	0.254	0.362	0.270	0.062	22.866
6.667	0.218	0.297	0.209	0.247	0.359	0.266	0.062	23.420
6.75	0.219	0.29	0.204	0.243	0.359	0.263	0.063	23.868
6.833	0.212	0.286	0.199	0.24	0.364	0.260	0.067	25.721
6.917	0.215	0.278	0.196	0.241	0.357	0.257	0.064	24.710

7	0.215	0.276	0.191	0.237	0.36	0.256	0.066	25.845

c. hydrogen peroxide

Table S10 : evolution of dissolved oxygen in 2014 red wine – hydrogen peroxide oxidation test

Time (h)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Mean	Standard deviation	Variation coefficient (%)
0	8.053	7.39	8.166	7.870	0.419	5.327
0.084	7.627	6.861	7.7	7.396	0.465	6.284
0.167	7.202	6.47	7.243	6.972	0.435	6.239
0.25	6.806	5.971	6.899	6.559	0.511	7.792
0.334	6.378	5.459	6.487	6.108	0.565	9.245
0.417	5.955	5.084	6.072	5.704	0.540	9.465
0.5	5.58	4.787	5.678	5.348	0.489	9.135
0.584	5.137	4.563	5.263	4.988	0.373	7.481
0.667	4.795	4.325	4.861	4.660	0.292	6.272
0.75	4.391	4.121	4.513	4.342	0.201	4.620
0.834	4.069	3.852	4.163	4.028	0.160	3.960
0.917	3.729	3.434	3.799	3.654	0.194	5.301
1	3.381	3.139	3.448	3.323	0.163	4.892

1.084	3.052	2.958	3.123	3.044	0.083	2.719
1.167	2.759	2.898	2.834	2.830	0.070	2.458
1.25	2.465	2.741	2.538	2.581	0.143	5.540
1.334	2.192	2.155	2.245	2.197	0.045	2.059
1.417	1.922	2.027	1.983	1.977	0.053	2.667
1.5	1.691	1.902	1.739	1.777	0.111	6.223
1.584	1.462	1.769	1.507	1.579	0.166	10.497
1.667	1.254	1.632	1.288	1.391	0.209	15.030
1.75	1.063	1.507	1.086	1.219	0.250	20.512
1.834	0.907	1.393	0.91	1.070	0.280	26.143
1.917	0.771	1.288	0.752	0.937	0.304	32.457
2	0.665	1.191	0.624	0.827	0.316	38.248
2.084	0.587	1.105	0.523	0.738	0.319	43.226
2.167	0.523	1.006	0.445	0.658	0.304	46.184
2.25	0.462	0.915	0.388	0.588	0.285	48.495
2.334	0.426	0.833	0.344	0.534	0.262	49.011
2.417	0.388	0.752	0.31	0.483	0.236	48.811
2.5	0.352	0.68	0.279	0.437	0.214	48.876
2.584	0.333	0.615	0.257	0.402	0.189	46.959

2.667	0.316	0.554	0.238	0.369	0.165	44.570
2.75	0.299	0.495	0.229	0.341	0.138	40.435
2.834	0.284	0.446	0.216	0.315	0.118	37.471
2.917	0.279	0.395	0.21	0.295	0.093	31.727
3	0.27	0.35	0.2	0.273	0.075	27.459
3.084	0.268	0.314	0.195	0.259	0.060	23.169
3.167	0.258	0.289	0.192	0.246	0.050	20.111
3.25	0.252	0.266	0.19	0.236	0.040	17.139
3.334	0.245	0.249	0.19	0.228	0.033	14.460
3.417	0.242	0.24	0.186	0.223	0.032	14.268
3.5	0.241	0.231	0.183	0.218	0.031	14.201
3.584	0.237	0.232	0.181	0.217	0.031	14.303
3.667	0.243	0.226	0.181	0.217	0.032	14.786
3.75	0.237	0.223	0.178	0.213	0.031	14.496
3.834	0.239	0.22	0.178	0.212	0.031	14.701
3.917	0.231	0.219	0.176	0.209	0.029	13.859
4	0.235	0.221	0.176	0.211	0.031	14.633
4.084	0.232	0.22	0.175	0.209	0.030	14.378
4.167	0.232	0.22	0.178	0.210	0.028	13.502

4.25	0.229	0.22	0.174	0.208	0.030	14.206
4.334	0.232	0.22	0.177	0.210	0.029	13.793
4.417	0.229	0.22	0.177	0.209	0.028	13.318
4.5	0.231	0.218	0.175	0.208	0.029	14.091
4.584	0.235	0.216	0.177	0.209	0.030	14.125
4.667	0.231	0.219	0.173	0.208	0.031	14.743
4.75	0.229	0.215	0.178	0.207	0.026	12.709
4.834	0.231	0.221	0.174	0.209	0.030	14.586
4.917	0.231	0.216	0.176	0.208	0.028	13.691
5	0.233	0.216	0.176	0.208	0.029	14.046
5.084	0.226	0.218	0.175	0.206	0.027	13.293
5.167	0.229	0.221	0.173	0.208	0.030	14.585
5.25	0.227	0.217	0.174	0.206	0.028	13.670
5.334	0.228	0.221	0.173	0.207	0.030	14.440
5.417	0.232	0.219	0.176	0.209	0.029	14.023
5.5	0.229	0.218	0.176	0.208	0.028	13.469
5.584	0.232	0.218	0.173	0.208	0.031	14.845
5.667	0.225	0.219	0.172	0.205	0.029	14.135
5.75	0.228	0.219	0.174	0.207	0.029	13.976

5.834	0.228	0.215	0.176	0.206	0.027	13.116
5.917	0.226	0.222	0.17	0.206	0.031	15.166
6	0.224	0.218	0.174	0.205	0.027	13.296
6.084	0.225	0.22	0.173	0.206	0.029	13.926
6.167	0.223	0.219	0.174	0.205	0.027	13.251
6.25	0.23	0.219	0.174	0.208	0.030	14.288
6.334	0.23	0.22	0.172	0.207	0.031	14.954
6.417	0.23	0.22	0.173	0.208	0.030	14.656
6.5	0.229	0.221	0.173	0.208	0.030	14.585
6.584	0.224	0.221	0.175	0.207	0.027	13.290
6.667	0.225	0.223	0.173	0.207	0.029	14.233
6.75	0.224	0.221	0.173	0.206	0.029	13.892
6.834	0.228	0.224	0.172	0.208	0.031	15.020
6.917	0.226	0.224	0.173	0.208	0.030	14.465
7	0.226	0.224	0.177	0.209	0.028	13.268

3) 2010 WINE

a. 60°C

Table S11 : evolution of dissolved oxygen in 2010 red wine at 60 °C

Time (h)	Temperature (°C)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Mean	Standard deviation	Variation coefficient (%)
0	60.2	4.917	5.24	5.505	5.221	0.294	5.641
0.167	60.7	4.515	4.943	5.28	4.913	0.383	7.804
0.333	60.9	3.97	4.301	4.803	4.358	0.419	9.624
0.5	60.9	3.643	3.843	4.407	3.964	0.396	9.994
0.667	61	3.417	3.435	4.018	3.623	0.342	9.436
0.833	61	3.172	3.106	3.636	3.305	0.289	8.740
1	60.9	2.912	2.796	3.256	2.988	0.239	8.006
1.167	60.9	2.654	2.514	2.978	2.715	0.238	8.765
1.333	60.9	2.389	2.243	2.684	2.439	0.225	9.212
1.5	60.9	2.159	2.005	2.453	2.206	0.228	10.320
1.667	61	1.948	1.862	2.229	2.013	0.192	9.535
1.833	60.9	1.775	1.649	2.028	1.817	0.193	10.621
2	60.9	1.606	1.48	1.835	1.640	0.180	10.972
2.167	61	1.466	1.331	1.668	1.488	0.170	11.396
2.333	60.9	1.326	1.213	1.526	1.355	0.159	11.698

2.5	60.9	1.2	1.043	1.377	1.207	0.167	13.848
2.667	61	1.072	0.973	1.25	1.098	0.140	12.780
2.833	61	0.95	0.869	1.121	0.980	0.129	13.128
3	60.9	0.855	0.745	1.008	0.869	0.132	15.194
3.167	60.9	0.76	0.646	0.904	0.770	0.129	16.791
3.333	60.9	0.683	0.565	0.816	0.688	0.126	18.252
3.5	60.9	0.608	0.515	0.743	0.622	0.115	18.431
3.667	60.7	0.546	0.441	0.661	0.549	0.110	20.031
3.833	60.9	0.481	0.394	0.578	0.484	0.092	19.005
4	60.9	0.429	0.366	0.519	0.438	0.077	17.556
4.167	60.7	0.38	0.299	0.468	0.382	0.085	22.107
4.333	60.9	0.337	0.255	0.413	0.335	0.079	23.588
4.5	60.9	0.301	0.225	0.367	0.298	0.071	23.872
4.667	60.7	0.268	0.198	0.315	0.260	0.059	22.615
4.833	60.7	0.236	0.178	0.286	0.233	0.054	23.164
5	60.7	0.211	0.16	0.259	0.210	0.050	23.575
5.167	60.7	0.187	0.147	0.23	0.188	0.042	22.079
5.333	60.7	0.169	0.137	0.204	0.170	0.034	19.712
5.5	60.7	0.152	0.123	0.182	0.152	0.030	19.366

5.667	60.7	0.14	0.119	0.166	0.142	0.024	16.619
5.833	60.6	0.128	0.109	0.154	0.130	0.023	17.333
6	60.6	0.118	0.108	0.145	0.124	0.019	15.477
6.167	60.6	0.109	0.103	0.137	0.116	0.018	15.600
6.333	60.6	0.104	0.101	0.127	0.111	0.014	12.853
6.5	60.6	0.098	0.098	0.123	0.106	0.014	13.574
6.667	60.7	0.092	0.094	0.116	0.101	0.013	13.228
6.833	60.6	0.09	0.093	0.115	0.099	0.014	13.742
7	60.6	0.085	0.088	0.111	0.095	0.014	15.026

b. Laccase

Table S12 : evolution of dissolved oxygen in 2010 red wine – laccase oxidation test

Time (h)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Mean	Standard deviation	Variation coefficient (%)
0	7.222	7.521	7.202	7.315	0.179	2.443
0.083	7.019	7.151	6.769	6.980	0.194	2.780
0.167	6.481	6.647	6.27	6.466	0.189	2.922
0.25	6.056	5.965	5.965	5.995	0.053	0.876
0.333	5.492	5.416	5.599	5.502	0.092	1.671

0.417	5.053	4.937	5.191	5.060	0.127	2.513
0.5	4.702	4.471	4.803	4.659	0.170	3.653
0.583	4.325	4.058	4.459	4.281	0.204	4.769
0.667	3.994	3.686	4.166	3.949	0.243	6.159
0.75	3.689	3.361	3.93	3.660	0.286	7.803
0.833	3.413	3.023	3.707	3.381	0.343	10.149
0.917	3.189	2.71	3.53	3.143	0.412	13.106
1	2.99	2.442	3.299	2.910	0.434	14.913
1.083	2.788	2.186	3.109	2.694	0.469	17.391
1.167	2.591	1.956	2.932	2.493	0.495	19.869
1.25	2.389	1.731	2.752	2.291	0.518	22.594
1.333	2.184	1.528	2.595	2.102	0.538	25.599
1.417	1.983	1.359	2.42	1.921	0.533	27.763
1.5	1.798	1.199	2.084	1.694	0.452	26.666
1.583	1.61	1.065	1.91	1.528	0.428	28.029
1.667	1.45	0.928	1.759	1.379	0.420	30.459
1.75	1.293	0.824	1.619	1.245	0.400	32.091
1.833	1.15	0.735	1.477	1.121	0.372	33.183
1.917	1.018	0.659	1.352	1.010	0.347	34.326

2	0.906	0.587	1.232	0.908	0.323	35.505
2.083	0.804	0.527	1.119	0.817	0.296	36.270
2.167	0.715	0.475	1.024	0.738	0.275	37.293
2.25	0.638	0.439	0.939	0.672	0.252	37.460
2.333	0.576	0.4	0.843	0.606	0.223	36.787
2.417	0.518	0.366	0.749	0.544	0.193	35.429
2.5	0.474	0.342	0.662	0.493	0.161	32.642
2.583	0.434	0.318	0.587	0.446	0.135	30.229
2.667	0.4	0.296	0.524	0.407	0.114	28.069
2.75	0.374	0.278	0.475	0.376	0.099	26.223
2.833	0.346	0.263	0.425	0.345	0.081	23.503
2.917	0.329	0.252	0.388	0.323	0.068	21.114
3	0.314	0.243	0.358	0.305	0.058	19.025
3.083	0.298	0.233	0.335	0.289	0.052	17.888
3.167	0.29	0.227	0.312	0.276	0.044	15.965
3.25	0.277	0.22	0.299	0.265	0.041	15.366
3.333	0.267	0.213	0.282	0.254	0.036	14.288
3.417	0.26	0.21	0.276	0.249	0.034	13.845
3.5	0.25	0.202	0.27	0.241	0.035	14.521

3.583	0.247	0.203	0.264	0.238	0.031	13.227
3.667	0.242	0.196	0.259	0.232	0.033	14.029
3.75	0.235	0.193	0.259	0.229	0.033	14.588
3.833	0.231	0.189	0.251	0.224	0.032	14.148
3.917	0.228	0.19	0.245	0.221	0.028	12.742
4	0.225	0.183	0.242	0.217	0.030	14.017
4.083	0.223	0.183	0.246	0.217	0.032	14.669
4.167	0.223	0.185	0.244	0.217	0.030	13.760
4.25	0.22	0.18	0.246	0.215	0.033	15.440
4.333	0.219	0.182	0.243	0.215	0.031	14.315
4.417	0.219	0.178	0.242	0.213	0.032	15.220
4.5	0.215	0.175	0.237	0.209	0.031	15.039
4.583	0.213	0.176	0.234	0.208	0.029	14.141
4.667	0.213	0.176	0.236	0.208	0.030	14.530
4.75	0.213	0.175	0.236	0.208	0.031	14.811
4.833	0.213	0.175	0.235	0.208	0.030	14.616
4.917	0.211	0.173	0.23	0.205	0.029	14.181
5	0.206	0.173	0.235	0.205	0.031	15.157
5.083	0.209	0.173	0.229	0.204	0.028	13.934

5.167	0.209	0.169	0.233	0.204	0.032	15.875
5.25	0.209	0.169	0.231	0.203	0.031	15.484
5.333	0.207	0.173	0.23	0.203	0.029	14.103
5.417	0.206	0.169	0.223	0.199	0.028	13.851
5.5	0.205	0.167	0.221	0.198	0.028	14.032
5.583	0.205	0.167	0.221	0.198	0.028	14.032
5.667	0.202	0.168	0.219	0.196	0.026	13.226
5.75	0.2	0.17	0.219	0.196	0.025	12.583
5.833	0.202	0.17	0.218	0.197	0.024	12.427
5.917	0.202	0.164	0.218	0.195	0.028	14.248
6	0.203	0.168	0.214	0.195	0.024	12.318
6.083	0.203	0.168	0.218	0.196	0.026	13.069
6.167	0.203	0.17	0.218	0.197	0.025	12.465
6.25	0.201	0.168	0.213	0.194	0.023	12.012
6.333	0.201	0.164	0.215	0.193	0.026	13.629
6.417	0.2	0.166	0.212	0.193	0.024	12.384
6.5	0.201	0.165	0.21	0.192	0.024	12.402
6.583	0.202	0.168	0.212	0.194	0.023	11.889
6.667	0.202	0.165	0.21	0.192	0.024	12.482

6.75	0.2	0.169	0.212	0.194	0.022	11.457
6.833	0.199	0.165	0.209	0.191	0.023	12.076
6.917	0.201	0.165	0.209	0.192	0.023	12.228
7	0.201	0.167	0.208	0.192	0.022	11.423

c. hydrogen peroxide

Table S13 : evolution of dissolved oxygen in 2010 red wine – hydrogen peroxide oxidation test

Time (h)	Oxygen (ppm) n1	Oxygen (ppm) n2	Oxygen (ppm) n3	Oxygen (ppm) n4	Mean	Standard deviation	Variation coefficient (%)
0	7.177	7.332	7.438	7.454	7.350	0.128	1.735
0.083	6.894	6.939	7.052	7.195	7.020	0.134	1.913
0.167	6.582	6.685	6.744	6.874	6.721	0.122	1.813
0.25	6.259	6.333	6.522	6.593	6.427	0.157	2.438
0.333	5.913	6.057	6.209	6.253	6.108	0.155	2.534
0.417	5.585	5.724	5.81	6.019	5.785	0.182	3.142
0.5	5.268	5.426	5.454	5.718	5.467	0.187	3.413
0.583	4.95	5.123	5.106	5.416	5.149	0.194	3.776
0.667	4.669	4.811	4.82	5.066	4.842	0.165	3.405
0.75	4.391	4.505	4.54	4.779	4.554	0.163	3.581

0.833	4.082	4.216	4.288	4.478	4.266	0.165	3.870
0.917	3.777	3.923	4.051	4.245	3.999	0.199	4.965
1	3.503	3.657	3.828	3.983	3.743	0.208	5.558
1.083	3.23	3.375	3.587	3.711	3.476	0.215	6.177
1.167	2.962	3.112	3.358	3.457	3.222	0.226	7.018
1.25	2.719	2.848	3.136	3.203	2.977	0.231	7.748
1.333	2.496	2.597	2.94	3.003	2.759	0.250	9.066
1.417	2.241	2.361	2.729	2.771	2.526	0.264	10.468
1.5	2.003	2.135	2.535	2.593	2.317	0.292	12.596
1.583	1.798	1.928	2.33	2.372	2.107	0.287	13.631
1.667	1.595	1.716	2.151	2.149	1.903	0.290	15.228
1.75	1.404	1.511	1.974	1.965	1.714	0.299	17.440
1.833	1.232	1.324	1.815	1.771	1.536	0.300	19.553
1.917	1.074	1.152	1.644	1.603	1.368	0.297	21.701
2	0.938	1.012	1.495	1.438	1.221	0.286	23.454
2.083	0.836	0.871	1.347	1.273	1.082	0.266	24.559
2.167	0.732	0.742	1.205	1.135	0.954	0.252	26.393
2.25	0.653	0.641	1.069	0.987	0.838	0.223	26.574
2.333	0.575	0.555	0.941	0.858	0.732	0.196	26.800

2.417	0.518	0.487	0.821	0.739	0.641	0.164	25.601
2.5	0.471	0.433	0.713	0.625	0.561	0.131	23.417
2.583	0.436	0.389	0.612	0.538	0.494	0.100	20.337
2.667	0.411	0.347	0.525	0.461	0.436	0.075	17.312
2.75	0.382	0.317	0.452	0.397	0.387	0.056	14.348
2.833	0.364	0.299	0.389	0.35	0.351	0.038	10.823
2.917	0.343	0.275	0.343	0.307	0.317	0.033	10.329
3	0.331	0.258	0.305	0.288	0.296	0.031	10.363
3.083	0.315	0.243	0.285	0.273	0.279	0.030	10.681
3.167	0.309	0.234	0.266	0.261	0.268	0.031	11.601
3.25	0.297	0.227	0.252	0.252	0.257	0.029	11.344
3.333	0.293	0.22	0.236	0.243	0.248	0.032	12.704
3.417	0.289	0.212	0.233	0.242	0.244	0.033	13.331
3.5	0.281	0.212	0.227	0.235	0.239	0.030	12.455
3.583	0.273	0.206	0.221	0.235	0.234	0.029	12.287
3.667	0.267	0.203	0.217	0.232	0.230	0.028	11.975
3.75	0.265	0.2	0.213	0.232	0.228	0.028	12.415
3.833	0.264	0.199	0.211	0.229	0.226	0.028	12.547
3.917	0.258	0.198	0.21	0.23	0.224	0.026	11.710

4	0.258	0.193	0.21	0.228	0.222	0.028	12.504
4.083	0.252	0.193	0.21	0.227	0.221	0.025	11.416
4.167	0.252	0.193	0.205	0.223	0.218	0.026	11.756
4.25	0.25	0.197	0.205	0.228	0.220	0.024	10.877
4.333	0.25	0.19	0.205	0.221	0.217	0.026	11.857
4.417	0.252	0.191	0.202	0.224	0.217	0.027	12.393
4.5	0.25	0.19	0.203	0.224	0.217	0.026	12.098
4.583	0.248	0.19	0.203	0.224	0.216	0.025	11.737
4.667	0.246	0.187	0.203	0.22	0.214	0.025	11.791
4.75	0.246	0.189	0.202	0.223	0.215	0.025	11.612
4.833	0.246	0.187	0.202	0.227	0.216	0.026	12.151
4.917	0.244	0.187	0.202	0.222	0.214	0.025	11.576
5	0.244	0.185	0.201	0.221	0.213	0.026	11.992
5.083	0.246	0.185	0.201	0.215	0.212	0.026	12.238
5.167	0.245	0.183	0.202	0.221	0.213	0.027	12.462
5.25	0.239	0.187	0.202	0.224	0.213	0.023	10.822
5.333	0.245	0.184	0.201	0.218	0.212	0.026	12.270
5.417	0.242	0.184	0.2	0.221	0.212	0.025	11.912
5.5	0.242	0.187	0.202	0.221	0.213	0.024	11.183

5.583	0.242	0.185	0.2	0.221	0.212	0.025	11.726
5.667	0.239	0.18	0.202	0.221	0.211	0.025	12.034
5.75	0.24	0.184	0.199	0.222	0.211	0.025	11.707
5.833	0.234	0.184	0.2	0.221	0.210	0.022	10.563
5.917	0.24	0.183	0.201	0.22	0.211	0.025	11.628
6	0.24	0.187	0.205	0.221	0.213	0.023	10.600
6.083	0.235	0.184	0.198	0.217	0.209	0.022	10.671
6.167	0.237	0.182	0.201	0.224	0.211	0.024	11.564
6.25	0.237	0.187	0.2	0.215	0.210	0.021	10.236
6.333	0.239	0.181	0.199	0.22	0.210	0.025	12.007
6.417	0.232	0.182	0.203	0.216	0.208	0.021	10.151
6.5	0.236	0.186	0.198	0.219	0.210	0.022	10.578
6.583	0.236	0.184	0.201	0.215	0.209	0.022	10.534
6.667	0.235	0.187	0.199	0.221	0.211	0.022	10.244
6.75	0.236	0.185	0.197	0.221	0.210	0.023	10.978
6.833	0.236	0.182	0.2	0.222	0.210	0.024	11.349
6.917	0.237	0.186	0.2	0.22	0.211	0.022	10.620
7	0.232	0.183	0.2	0.22	0.209	0.022	10.373

III. ABSORBANCE MEASUREMENTS

1) 2018 WINE

Table S14 : Absorbance measurements in UVvis (400–800 nm) for 2018 red wine

Wavelength (nm)	Absorbance 1	Absorbance 2	Absorbance 3	Mean	Standard deviation	Variation coefficient (%)
800.0025	0.0241	0.0225	0.0171	0.0213	0.0037	17.2441
794.9929	0.0242	0.0229	0.0189	0.0220	0.0027	12.4837
790.0081	0.0249	0.0242	0.0190	0.0227	0.0032	14.2271
785.0137	0.0269	0.0256	0.0186	0.0237	0.0044	18.7486
780.0096	0.0272	0.0243	0.0193	0.0236	0.0040	16.7525
774.9960	0.0281	0.0273	0.0213	0.0256	0.0037	14.5163
770.0079	0.0281	0.0266	0.0222	0.0256	0.0031	12.1427
765.0104	0.0301	0.0274	0.0229	0.0268	0.0036	13.5921
760.0038	0.0293	0.0297	0.0243	0.0278	0.0030	10.7296
754.9877	0.0297	0.0285	0.0237	0.0273	0.0032	11.5681
749.9981	0.0307	0.0295	0.0239	0.0280	0.0037	13.0240
744.9995	0.0302	0.0283	0.0233	0.0273	0.0036	13.1469
739.9919	0.0309	0.0290	0.0249	0.0283	0.0030	10.7646
735.0110	0.0298	0.0280	0.0217	0.0265	0.0042	16.0202
729.9858	0.0289	0.0263	0.0207	0.0253	0.0042	16.4371
724.9877	0.0267	0.0254	0.0192	0.0238	0.0040	16.8347
720.0167	0.0252	0.0234	0.0172	0.0219	0.0042	18.9777
715.0015	0.0237	0.0222	0.0168	0.0209	0.0036	17.4212
710.0137	0.0250	0.0238	0.0186	0.0225	0.0034	15.3239
705.0178	0.0294	0.0275	0.0224	0.0264	0.0036	13.6591
700.0136	0.0349	0.0337	0.0279	0.0322	0.0038	11.6585

695.0013	0.0413	0.0394	0.0337	0.0382	0.0039	10.3327
690.0170	0.0480	0.0461	0.0395	0.0445	0.0044	9.9782
684.9886	0.0534	0.0511	0.0455	0.0500	0.0040	8.0986
679.9885	0.0583	0.0566	0.0509	0.0553	0.0039	7.0064
675.0170	0.0644	0.0631	0.0565	0.0613	0.0042	6.9065
670.0014	0.0704	0.0688	0.0635	0.0675	0.0036	5.3237
665.0146	0.0756	0.0741	0.0680	0.0726	0.0040	5.5033
659.9838	0.0825	0.0811	0.0759	0.0798	0.0035	4.3925
654.9819	0.0914	0.0908	0.0848	0.0890	0.0036	4.0984
650.0092	0.1020	0.1018	0.0954	0.0997	0.0038	3.8117
644.9926	0.1156	0.1142	0.1080	0.1126	0.0040	3.5950
640.0055	0.1303	0.1301	0.1242	0.1282	0.0035	2.7201
635.0112	0.1484	0.1480	0.1422	0.1462	0.0035	2.3719
630.0099	0.1693	0.1682	0.1621	0.1666	0.0039	2.3279
625.0015	0.1899	0.1892	0.1831	0.1874	0.0037	1.9934
619.9862	0.2109	0.2099	0.2050	0.2086	0.0032	1.5141
615.0009	0.2357	0.2351	0.2291	0.2333	0.0037	1.5653
610.0089	0.2625	0.2616	0.2557	0.2599	0.0037	1.4281
605.0101	0.2905	0.2910	0.2856	0.2890	0.0030	1.0367
600.0048	0.3241	0.3235	0.3186	0.3221	0.0030	0.9271
594.9929	0.3578	0.3578	0.3514	0.3557	0.0037	1.0356
590.0115	0.3947	0.3949	0.3889	0.3929	0.0034	0.8655
584.9866	0.4354	0.4360	0.4281	0.4332	0.0044	1.0083
579.9926	0.4752	0.4771	0.4685	0.4736	0.0045	0.9534
574.9923	0.5128	0.5146	0.5075	0.5116	0.0037	0.7201
569.9858	0.5487	0.5506	0.5435	0.5476	0.0037	0.6710
565.0105	0.5796	0.5800	0.5733	0.5776	0.0037	0.6489
559.9918	0.6101	0.6097	0.6042	0.6080	0.0033	0.5426
555.0045	0.6360	0.6362	0.6282	0.6334	0.0045	0.7179
550.0113	0.6591	0.6592	0.6515	0.6566	0.0044	0.6730

545.0122	0.6771	0.6792	0.6720	0.6761	0.0037	0.5475
540.0073	0.6930	0.6955	0.6878	0.6921	0.0039	0.5696
534.9968	0.7041	0.7066	0.6991	0.7033	0.0038	0.5440
530.0181	0.7099	0.7115	0.7048	0.7087	0.0035	0.4902
524.9963	0.7102	0.7121	0.7063	0.7095	0.0030	0.4186
520.0065	0.7060	0.7078	0.7022	0.7054	0.0028	0.4038
515.0114	0.6979	0.6993	0.6935	0.6969	0.0030	0.4325
510.0109	0.6851	0.6866	0.6819	0.6845	0.0024	0.3556
505.0050	0.6705	0.6716	0.6664	0.6695	0.0028	0.4128
499.9938	0.6546	0.6550	0.6511	0.6536	0.0022	0.3318
495.0154	0.6397	0.6411	0.6364	0.6390	0.0024	0.3755
489.9938	0.6255	0.6277	0.6224	0.6252	0.0026	0.4225
485.0052	0.6128	0.6140	0.6098	0.6122	0.0022	0.3585
480.0115	0.6019	0.6031	0.5992	0.6014	0.0020	0.3370
475.0129	0.5925	0.5940	0.5891	0.5919	0.0025	0.4208
470.0095	0.5854	0.5866	0.5821	0.5847	0.0024	0.4038
465.0010	0.5800	0.5805	0.5769	0.5791	0.0019	0.3338
459.9879	0.5752	0.5763	0.5723	0.5746	0.0021	0.3632
455.0083	0.5711	0.5716	0.5678	0.5702	0.0020	0.3579
449.9857	0.5659	0.5664	0.5623	0.5649	0.0022	0.3896
444.9969	0.5602	0.5613	0.5574	0.5596	0.0020	0.3560
440.0034	0.5551	0.5556	0.5521	0.5543	0.0019	0.3374
435.0056	0.5496	0.5501	0.5464	0.5487	0.0020	0.3673
430.0033	0.5447	0.5456	0.5418	0.5440	0.0020	0.3638
424.9967	0.5422	0.5433	0.5395	0.5417	0.0020	0.3608
419.9857	0.5456	0.5464	0.5431	0.5450	0.0017	0.3100
415.0091	0.5562	0.5577	0.5540	0.5559	0.0019	0.3342
409.9896	0.5754	0.5774	0.5729	0.5752	0.0023	0.3932
405.0047	0.6026	0.6040	0.6003	0.6023	0.0019	0.3142
400.0156	0.6368	0.6386	0.6360	0.6371	0.0013	0.2099

2) 2014 WINE

Table S15 : Absorbance measurements in UVvis (400–800 nm) for 2014 red wine

Wavelength (nm)	Absorbance 1	Absorbance 2	Absorbance 3	Mean	Standard deviation	Variation coefficient (%)
800.003	0.024	0.020	0.018	0.020	0.003	15.114
794.993	0.024	0.021	0.018	0.021	0.003	14.483
790.008	0.025	0.021	0.019	0.022	0.003	14.073
785.014	0.026	0.021	0.022	0.023	0.002	10.797
780.010	0.026	0.022	0.022	0.023	0.002	7.953
774.996	0.027	0.022	0.022	0.024	0.003	11.967
770.008	0.029	0.024	0.023	0.026	0.003	11.623
765.010	0.028	0.024	0.023	0.025	0.003	10.114
760.004	0.028	0.025	0.023	0.025	0.003	10.108
754.988	0.030	0.026	0.024	0.026	0.003	11.273
749.998	0.029	0.024	0.024	0.026	0.003	11.101
744.999	0.028	0.024	0.023	0.025	0.002	9.122
739.992	0.028	0.024	0.022	0.025	0.003	10.309
735.011	0.027	0.024	0.022	0.024	0.002	10.047
729.986	0.026	0.021	0.021	0.023	0.003	12.051
724.988	0.023	0.019	0.018	0.020	0.003	13.639
720.017	0.021	0.018	0.016	0.018	0.003	14.194
715.002	0.021	0.017	0.015	0.018	0.003	16.770
710.014	0.022	0.018	0.017	0.019	0.003	14.009
705.018	0.026	0.022	0.020	0.023	0.003	13.155
700.014	0.031	0.027	0.025	0.028	0.003	10.097
695.001	0.036	0.032	0.031	0.033	0.003	8.028

690.017	0.042	0.038	0.037	0.039	0.003	7.264
684.989	0.047	0.043	0.042	0.044	0.003	6.016
679.989	0.053	0.048	0.047	0.049	0.003	6.105
675.017	0.057	0.053	0.051	0.054	0.003	5.169
670.001	0.062	0.058	0.057	0.059	0.003	4.865
665.015	0.066	0.062	0.061	0.063	0.003	4.530
659.984	0.071	0.067	0.065	0.068	0.003	4.086
654.982	0.079	0.074	0.071	0.075	0.004	5.331
650.009	0.085	0.081	0.079	0.081	0.003	4.019
644.993	0.093	0.089	0.087	0.090	0.003	3.374
640.005	0.104	0.100	0.098	0.101	0.003	3.329
635.011	0.116	0.111	0.110	0.112	0.003	2.819
630.010	0.129	0.125	0.124	0.126	0.003	2.344
625.001	0.144	0.139	0.137	0.140	0.003	2.460
619.986	0.161	0.155	0.153	0.156	0.004	2.645
615.001	0.176	0.172	0.170	0.172	0.003	1.821
610.009	0.194	0.190	0.188	0.191	0.003	1.764
605.010	0.214	0.210	0.208	0.211	0.003	1.530
600.005	0.236	0.231	0.229	0.232	0.003	1.463
594.993	0.256	0.251	0.249	0.252	0.004	1.479
590.011	0.279	0.275	0.272	0.275	0.004	1.313
584.987	0.302	0.297	0.295	0.298	0.004	1.257
579.993	0.325	0.321	0.317	0.321	0.004	1.216
574.992	0.347	0.341	0.338	0.342	0.004	1.310
569.986	0.367	0.361	0.359	0.362	0.004	1.165
565.010	0.385	0.379	0.377	0.381	0.004	1.077
559.992	0.403	0.398	0.395	0.399	0.004	1.035
555.005	0.420	0.416	0.413	0.416	0.004	0.865
550.011	0.438	0.432	0.430	0.433	0.005	1.067
545.012	0.455	0.449	0.446	0.450	0.005	1.029

540.007	0.469	0.463	0.461	0.464	0.004	0.841
534.997	0.483	0.477	0.475	0.478	0.004	0.880
530.018	0.495	0.489	0.487	0.491	0.004	0.764
524.996	0.504	0.499	0.498	0.500	0.003	0.689
520.007	0.512	0.507	0.505	0.508	0.004	0.780
515.011	0.515	0.511	0.509	0.512	0.003	0.614
510.011	0.517	0.512	0.510	0.513	0.003	0.661
505.005	0.516	0.510	0.509	0.512	0.003	0.650
499.994	0.512	0.507	0.506	0.508	0.003	0.545
495.015	0.509	0.504	0.503	0.505	0.003	0.663
489.994	0.505	0.500	0.499	0.501	0.003	0.627
485.005	0.501	0.496	0.495	0.497	0.003	0.630
480.012	0.498	0.493	0.492	0.494	0.003	0.652
475.013	0.494	0.490	0.488	0.491	0.003	0.643
470.009	0.492	0.488	0.487	0.489	0.003	0.582
465.001	0.493	0.488	0.487	0.489	0.003	0.621
459.988	0.493	0.488	0.487	0.489	0.003	0.609
455.008	0.493	0.489	0.487	0.490	0.003	0.609
449.986	0.493	0.488	0.487	0.489	0.003	0.592
444.997	0.493	0.488	0.487	0.489	0.003	0.662
440.003	0.493	0.488	0.487	0.489	0.003	0.636
435.006	0.493	0.488	0.487	0.489	0.003	0.659
430.003	0.493	0.488	0.487	0.490	0.003	0.636
424.997	0.496	0.491	0.489	0.492	0.004	0.715
419.986	0.502	0.497	0.496	0.499	0.003	0.668
415.009	0.516	0.510	0.509	0.512	0.004	0.719
409.990	0.537	0.531	0.529	0.532	0.004	0.810
405.005	0.562	0.557	0.555	0.558	0.003	0.616
400.016	0.595	0.590	0.589	0.591	0.003	0.579

3) 2010 WINE

Table S16 : Absorbance measurements in UVvis (400–800 nm) for 2010 red wine

Wavelength (nm)	Absorbance 1	Absorbance 2	Absorbance 3	Mean	Standard deviation	Variation coefficient (%)
800.003	0.042	0.044	0.044	0.043	0.001	1.719
794.993	0.045	0.046	0.046	0.045	0.000	0.539
790.008	0.044	0.048	0.046	0.046	0.002	4.460
785.014	0.046	0.046	0.047	0.046	0.001	1.675
780.010	0.047	0.049	0.047	0.048	0.001	2.579
774.996	0.047	0.049	0.047	0.048	0.001	1.433
770.008	0.047	0.051	0.050	0.049	0.002	3.678
765.010	0.049	0.051	0.050	0.050	0.001	2.412
760.004	0.050	0.051	0.051	0.051	0.001	1.196
754.988	0.050	0.052	0.053	0.051	0.002	3.132
749.998	0.051	0.053	0.051	0.052	0.001	2.599
744.999	0.051	0.052	0.052	0.052	0.001	1.723
739.992	0.051	0.053	0.052	0.052	0.001	2.078
735.011	0.050	0.052	0.052	0.051	0.001	2.755
729.986	0.049	0.051	0.050	0.050	0.001	2.198
724.988	0.047	0.050	0.048	0.049	0.002	3.542
720.017	0.045	0.048	0.047	0.047	0.002	3.837
715.002	0.045	0.047	0.046	0.046	0.001	2.892
710.014	0.046	0.048	0.049	0.048	0.001	3.090
705.018	0.050	0.053	0.052	0.052	0.001	2.412
700.014	0.055	0.059	0.058	0.057	0.002	2.918
695.001	0.062	0.064	0.064	0.063	0.001	2.166
690.017	0.068	0.070	0.069	0.069	0.001	2.025
684.989	0.074	0.077	0.076	0.076	0.002	2.678
679.989	0.079	0.082	0.081	0.081	0.001	1.756
675.017	0.085	0.088	0.087	0.086	0.002	1.765

670.001	0.090	0.094	0.093	0.092	0.002	2.084
665.015	0.094	0.097	0.098	0.096	0.002	1.955
659.984	0.101	0.104	0.103	0.103	0.002	1.657
654.982	0.108	0.112	0.111	0.110	0.002	1.830
650.009	0.117	0.120	0.119	0.119	0.001	1.102
644.993	0.126	0.129	0.130	0.128	0.002	1.634
640.005	0.139	0.143	0.142	0.141	0.002	1.681
635.011	0.154	0.157	0.157	0.156	0.002	1.199
630.010	0.170	0.174	0.174	0.173	0.002	1.266
625.001	0.188	0.192	0.192	0.191	0.003	1.425
619.986	0.207	0.211	0.211	0.210	0.002	1.162
615.001	0.229	0.234	0.234	0.232	0.003	1.294
610.009	0.252	0.258	0.257	0.256	0.003	1.327
605.010	0.278	0.284	0.283	0.282	0.004	1.262
600.005	0.303	0.309	0.309	0.307	0.003	1.115
594.993	0.329	0.335	0.335	0.333	0.003	1.037
590.011	0.354	0.362	0.361	0.359	0.004	1.124
584.987	0.380	0.386	0.387	0.384	0.004	1.061
579.993	0.405	0.410	0.412	0.409	0.004	0.932
574.992	0.428	0.435	0.434	0.432	0.004	0.874
569.986	0.448	0.456	0.457	0.454	0.005	1.070
565.010	0.468	0.476	0.477	0.474	0.005	1.020
559.992	0.489	0.496	0.497	0.494	0.004	0.894
555.005	0.508	0.518	0.517	0.514	0.005	1.008
550.011	0.529	0.538	0.538	0.535	0.005	0.952
545.012	0.549	0.558	0.559	0.555	0.005	0.954
540.007	0.568	0.577	0.577	0.574	0.005	0.929
534.997	0.585	0.594	0.596	0.592	0.006	1.016
530.018	0.600	0.610	0.611	0.607	0.006	1.016
524.996	0.614	0.624	0.625	0.621	0.006	0.929

520.007	0.625	0.634	0.636	0.631	0.006	0.916
515.011	0.632	0.641	0.642	0.639	0.006	0.899
510.011	0.637	0.646	0.647	0.643	0.006	0.895
505.005	0.638	0.648	0.649	0.645	0.006	0.924
499.994	0.639	0.648	0.650	0.646	0.006	0.877
495.015	0.640	0.649	0.651	0.647	0.006	0.913
489.994	0.640	0.649	0.651	0.647	0.006	0.948
485.005	0.639	0.649	0.651	0.646	0.006	1.005
480.012	0.641	0.650	0.651	0.648	0.006	0.914
475.013	0.641	0.651	0.652	0.648	0.006	0.905
470.009	0.644	0.652	0.654	0.650	0.006	0.885
465.001	0.647	0.656	0.658	0.654	0.006	0.895
459.988	0.649	0.659	0.660	0.656	0.006	0.925
455.008	0.653	0.662	0.664	0.660	0.006	0.866
449.986	0.657	0.666	0.668	0.663	0.006	0.891
444.997	0.660	0.670	0.671	0.667	0.006	0.891
440.003	0.664	0.673	0.675	0.671	0.006	0.909
435.006	0.667	0.677	0.678	0.674	0.006	0.916
430.003	0.672	0.682	0.683	0.679	0.006	0.896
424.997	0.679	0.689	0.692	0.687	0.006	0.938
419.986	0.694	0.704	0.706	0.702	0.006	0.906
415.009	0.717	0.728	0.730	0.725	0.007	0.993
409.990	0.751	0.766	0.766	0.761	0.008	1.081
405.005	0.795	0.808	0.808	0.804	0.007	0.897
400.016	0.847	0.861	0.864	0.858	0.009	1.042

4) 2018 WINE – HEAT TEST (60°C)

Table S17 : Absorbance measurements in UVvis (400–800 nm) for 2018 red wine at 60 °C

Wavelength (nm)	Absorbance 1	Absorbance 2	Absorbance 3	Mean	Standard deviation	Variation coefficient (%)
800.003	0.007	0.008	0.009	0.008	0.001	10.804
794.993	0.007	0.008	0.009	0.008	0.001	10.823
790.008	0.009	0.009	0.007	0.009	0.001	11.147
785.014	0.009	0.008	0.008	0.008	0.001	6.400
780.010	0.009	0.010	0.011	0.010	0.001	9.789
774.996	0.010	0.011	0.011	0.011	0.000	4.541
770.008	0.011	0.012	0.011	0.011	0.000	4.141
765.010	0.011	0.011	0.011	0.011	0.000	2.514
760.004	0.013	0.012	0.012	0.012	0.000	2.464
754.988	0.013	0.012	0.012	0.012	0.000	2.997
749.998	0.013	0.012	0.012	0.013	0.001	5.102
744.999	0.012	0.013	0.012	0.012	0.001	6.279
739.992	0.013	0.012	0.012	0.012	0.000	4.158
735.011	0.011	0.011	0.010	0.011	0.001	5.940
729.986	0.010	0.010	0.009	0.010	0.000	3.207
724.988	0.008	0.007	0.007	0.008	0.000	5.904
720.017	0.006	0.006	0.005	0.006	0.000	5.019
715.002	0.005	0.005	0.004	0.005	0.000	3.806
710.014	0.006	0.006	0.006	0.006	0.000	2.489
705.018	0.010	0.010	0.010	0.010	0.000	1.515
700.014	0.016	0.015	0.016	0.016	0.000	0.757
695.001	0.022	0.022	0.021	0.022	0.000	1.630
690.017	0.027	0.028	0.027	0.027	0.001	1.948
684.989	0.034	0.033	0.033	0.033	0.001	1.727
679.989	0.039	0.039	0.039	0.039	0.000	0.747
675.017	0.044	0.044	0.044	0.044	0.000	0.106
670.001	0.050	0.050	0.050	0.050	0.000	0.284

665.015	0.055	0.056	0.055	0.056	0.000	0.586
659.984	0.062	0.062	0.062	0.062	0.000	0.313
654.982	0.070	0.071	0.071	0.070	0.000	0.618
650.009	0.080	0.081	0.081	0.081	0.000	0.565
644.993	0.092	0.092	0.093	0.092	0.000	0.190
640.005	0.107	0.107	0.108	0.107	0.000	0.314
635.011	0.124	0.124	0.124	0.124	0.000	0.282
630.010	0.143	0.143	0.143	0.143	0.000	0.180
625.001	0.160	0.162	0.162	0.162	0.001	0.603
619.986	0.180	0.180	0.180	0.180	0.000	0.152
615.001	0.202	0.204	0.203	0.203	0.001	0.527
610.009	0.225	0.228	0.227	0.226	0.001	0.509
605.010	0.253	0.253	0.254	0.253	0.001	0.356
600.005	0.282	0.283	0.282	0.282	0.001	0.336
594.993	0.312	0.315	0.314	0.314	0.001	0.357
590.011	0.347	0.349	0.349	0.348	0.001	0.280
584.987	0.383	0.385	0.386	0.385	0.001	0.305
579.993	0.421	0.424	0.423	0.422	0.001	0.322
574.992	0.456	0.460	0.458	0.458	0.002	0.411
569.986	0.490	0.492	0.493	0.492	0.001	0.303
565.010	0.517	0.522	0.522	0.521	0.003	0.520
559.992	0.547	0.551	0.550	0.549	0.002	0.401
555.005	0.574	0.576	0.578	0.576	0.002	0.365
550.011	0.597	0.600	0.600	0.599	0.002	0.319
545.012	0.617	0.622	0.622	0.620	0.003	0.433
540.007	0.633	0.639	0.638	0.637	0.003	0.506
534.997	0.649	0.652	0.653	0.651	0.002	0.332
530.018	0.656	0.661	0.662	0.660	0.003	0.444
524.996	0.661	0.665	0.666	0.664	0.002	0.367
520.007	0.660	0.666	0.666	0.664	0.003	0.510

515.011	0.657	0.661	0.662	0.660	0.003	0.401
510.011	0.649	0.654	0.654	0.652	0.003	0.449
505.005	0.639	0.643	0.644	0.642	0.003	0.418
499.994	0.629	0.632	0.633	0.631	0.002	0.352
495.015	0.618	0.622	0.622	0.621	0.002	0.390
489.994	0.608	0.612	0.612	0.611	0.003	0.420
485.005	0.599	0.603	0.602	0.601	0.002	0.396
480.012	0.591	0.595	0.595	0.594	0.002	0.362
475.013	0.584	0.588	0.588	0.586	0.002	0.415
470.009	0.579	0.582	0.583	0.581	0.002	0.398
465.001	0.576	0.580	0.579	0.578	0.002	0.352
459.988	0.573	0.577	0.576	0.575	0.002	0.367
455.008	0.570	0.574	0.573	0.572	0.002	0.371
449.986	0.566	0.569	0.569	0.568	0.002	0.390
444.997	0.561	0.565	0.565	0.564	0.002	0.384
440.003	0.557	0.560	0.560	0.559	0.002	0.322
435.006	0.553	0.556	0.556	0.555	0.002	0.324
430.003	0.549	0.552	0.552	0.551	0.002	0.311
424.997	0.548	0.550	0.550	0.549	0.002	0.292
419.986	0.552	0.554	0.554	0.554	0.002	0.281
415.009	0.563	0.566	0.566	0.565	0.001	0.259
409.990	0.583	0.586	0.585	0.584	0.001	0.239
405.005	0.611	0.613	0.613	0.612	0.001	0.221
400.016	0.647	0.650	0.649	0.649	0.001	0.199

5) 2018 WINE - LACCASE TEST

Table S18 : Absorbance measurements in UVvis (400–800 nm) for 2018 red wine – laccase oxidation test

Wavelength (nm)	Absorbance 1	Absorbance 2	Absorbance 3	Mean	Standard deviation	Variation coefficient (%)

800.003	0.018	0.018	0.014	0.016	0.002	14.246
794.993	0.020	0.019	0.014	0.018	0.003	18.253
790.008	0.021	0.021	0.014	0.019	0.004	19.949
785.014	0.020	0.020	0.017	0.019	0.002	8.601
780.010	0.022	0.021	0.016	0.020	0.003	14.961
774.996	0.023	0.021	0.016	0.020	0.004	19.560
770.008	0.023	0.024	0.018	0.022	0.004	16.252
765.010	0.024	0.023	0.018	0.022	0.003	15.845
760.004	0.025	0.025	0.019	0.023	0.003	13.380
754.988	0.025	0.024	0.019	0.023	0.003	14.263
749.998	0.027	0.025	0.019	0.024	0.004	16.409
744.999	0.026	0.026	0.020	0.024	0.004	16.017
739.992	0.026	0.027	0.020	0.024	0.003	14.162
735.011	0.026	0.026	0.020	0.024	0.003	14.379
729.986	0.024	0.024	0.018	0.022	0.004	16.194
724.988	0.023	0.022	0.016	0.021	0.004	19.417
720.017	0.021	0.021	0.014	0.019	0.004	20.701
715.002	0.020	0.021	0.014	0.019	0.004	21.291
710.014	0.023	0.023	0.016	0.021	0.004	20.438
705.018	0.027	0.028	0.021	0.025	0.004	15.594
700.014	0.033	0.034	0.026	0.031	0.004	14.418
695.001	0.040	0.040	0.033	0.038	0.004	11.623
690.017	0.046	0.046	0.039	0.044	0.004	9.241
684.989	0.052	0.053	0.045	0.050	0.005	9.288
679.989	0.059	0.059	0.052	0.057	0.004	7.630
675.017	0.066	0.066	0.057	0.063	0.005	7.873
670.001	0.072	0.073	0.064	0.070	0.005	7.175
665.015	0.079	0.079	0.070	0.076	0.005	7.105
659.984	0.086	0.087	0.077	0.084	0.006	6.946
654.982	0.097	0.097	0.087	0.094	0.006	6.512

650.009	0.108	0.109	0.099	0.105	0.006	5.398
644.993	0.123	0.124	0.112	0.120	0.007	5.446
640.005	0.140	0.142	0.128	0.137	0.007	5.353
635.011	0.160	0.161	0.148	0.156	0.008	4.898
630.010	0.181	0.183	0.168	0.178	0.008	4.534
625.001	0.205	0.206	0.189	0.200	0.009	4.668
619.986	0.227	0.229	0.212	0.223	0.009	4.257
615.001	0.253	0.253	0.236	0.247	0.010	4.096
610.009	0.280	0.283	0.263	0.276	0.011	3.917
605.010	0.313	0.314	0.293	0.307	0.012	3.873
600.005	0.346	0.349	0.325	0.340	0.013	3.819
594.993	0.383	0.385	0.360	0.376	0.014	3.625
590.011	0.424	0.425	0.399	0.416	0.015	3.602
584.987	0.467	0.470	0.441	0.459	0.016	3.509
579.993	0.512	0.515	0.484	0.503	0.017	3.416
574.992	0.553	0.556	0.524	0.544	0.018	3.259
569.986	0.594	0.596	0.562	0.584	0.019	3.237
565.010	0.626	0.631	0.593	0.617	0.020	3.295
559.992	0.662	0.666	0.624	0.650	0.023	3.595
555.005	0.689	0.694	0.654	0.679	0.022	3.233
550.011	0.718	0.721	0.679	0.706	0.024	3.339
545.012	0.740	0.745	0.702	0.729	0.024	3.239
540.007	0.758	0.762	0.719	0.746	0.024	3.193
534.997	0.772	0.777	0.733	0.761	0.025	3.221
530.018	0.782	0.786	0.741	0.770	0.025	3.207
524.996	0.784	0.789	0.744	0.773	0.025	3.213
520.007	0.781	0.787	0.741	0.770	0.025	3.227
515.011	0.775	0.778	0.735	0.763	0.024	3.192
510.011	0.763	0.767	0.724	0.751	0.023	3.122
505.005	0.748	0.752	0.709	0.736	0.024	3.223

499.994	0.732	0.737	0.696	0.722	0.022	3.083
495.015	0.719	0.722	0.683	0.708	0.022	3.068
489.994	0.705	0.709	0.670	0.695	0.021	3.072
485.005	0.693	0.696	0.659	0.682	0.021	3.038
480.012	0.683	0.686	0.649	0.673	0.021	3.083
475.013	0.674	0.677	0.640	0.664	0.020	3.089
470.009	0.667	0.670	0.634	0.657	0.020	3.029
465.001	0.663	0.666	0.630	0.653	0.020	3.032
459.988	0.659	0.662	0.627	0.649	0.019	2.939
455.008	0.655	0.658	0.624	0.646	0.019	2.950
449.986	0.651	0.653	0.619	0.641	0.019	2.962
444.997	0.646	0.649	0.615	0.636	0.019	2.980
440.003	0.641	0.644	0.610	0.631	0.019	2.975
435.006	0.635	0.638	0.604	0.626	0.019	2.976
430.003	0.631	0.633	0.600	0.621	0.019	3.001
424.997	0.627	0.630	0.596	0.618	0.019	3.030
419.986	0.630	0.632	0.598	0.620	0.019	3.118
415.009	0.639	0.642	0.607	0.629	0.020	3.120
409.990	0.659	0.659	0.623	0.647	0.021	3.202
405.005	0.684	0.685	0.648	0.672	0.021	3.159
400.016	0.720	0.720	0.680	0.707	0.023	3.275

6) 2018 WINE - HYDROGEN PEROXIDE TEST

Table S19 : Absorbance measurements in UVvis (400–800 nm) for 2018 red wine – hydrogen peroxide oxidation test

Wavelength (nm)	Absorbance 1	Absorbance 2	Absorbance 3	Mean	Standard deviation	Variation coefficient (%)
800.00250	0.00777	0.00729	0.00722	0.00743	0.00030	4.01531

794.99286	0.00778	0.00788	0.00990	0.00852	0.00120	14.05238
790.00812	0.00683	0.00782	0.01007	0.00824	0.00166	20.14709
785.01367	0.00862	0.00804	0.01036	0.00900	0.00121	13.39701
780.00964	0.01067	0.00958	0.00949	0.00991	0.00066	6.62254
774.99597	0.01066	0.00877	0.01172	0.01038	0.00149	14.38445
770.00787	0.01008	0.00995	0.01124	0.01042	0.00071	6.80274
765.01044	0.01012	0.00997	0.01025	0.01011	0.00014	1.40427
760.00378	0.01084	0.01012	0.01166	0.01087	0.00077	7.07063
754.98773	0.01169	0.01044	0.01165	0.01126	0.00071	6.32143
749.99811	0.01180	0.00975	0.01297	0.01151	0.00163	14.13336
744.99945	0.01023	0.00939	0.01070	0.01011	0.00066	6.54654
739.99188	0.00939	0.00910	0.00979	0.00943	0.00035	3.66648
735.01105	0.00813	0.00817	0.00887	0.00839	0.00042	4.97048
729.98584	0.00659	0.00465	0.00758	0.00627	0.00149	23.72833
724.98767	0.00430	0.00288	0.00382	0.00367	0.00072	19.64157
720.01666	0.00186	0.00040	0.00208	0.00145	0.00092	63.39425
715.00153	0.00012	-0.00045	0.00027	-0.00002	0.00038	-2055.94762
710.01373	0.00058	-0.00014	0.00127	0.00057	0.00070	123.43076
705.01782	0.00402	0.00303	0.00461	0.00389	0.00080	20.57916
700.01361	0.00862	0.00763	0.00915	0.00847	0.00077	9.13066
695.00128	0.01428	0.01289	0.01400	0.01372	0.00073	5.33136
690.01703	0.01826	0.01732	0.01817	0.01792	0.00052	2.88749
684.98865	0.02264	0.02131	0.02346	0.02247	0.00108	4.81859
679.98853	0.02751	0.02588	0.02728	0.02689	0.00089	3.29255
675.01697	0.03073	0.02928	0.03147	0.03049	0.00111	3.65569
670.00140	0.03478	0.03349	0.03417	0.03415	0.00064	1.88881
665.01459	0.03699	0.03489	0.03582	0.03590	0.00105	2.93592
659.98376	0.03974	0.03783	0.03915	0.03891	0.00098	2.51065
654.98187	0.04371	0.04189	0.04251	0.04271	0.00092	2.16384
650.00922	0.04700	0.04460	0.04602	0.04587	0.00121	2.62821

644.99261	0.05218	0.04873	0.05068	0.05053	0.00173	3.42368
640.00549	0.05747	0.05480	0.05630	0.05619	0.00133	2.37505
635.01123	0.06439	0.06155	0.06270	0.06288	0.00143	2.27573
630.00989	0.07123	0.06808	0.06956	0.06962	0.00157	2.25706
625.00146	0.07962	0.07559	0.07647	0.07723	0.00212	2.74526
619.98621	0.08723	0.08335	0.08509	0.08522	0.00194	2.28017
615.00085	0.09649	0.09261	0.09369	0.09426	0.00200	2.12241
610.00885	0.10705	0.10156	0.10291	0.10384	0.00286	2.75188
605.01013	0.11726	0.11159	0.11321	0.11402	0.00292	2.55780
600.00476	0.12797	0.12234	0.12336	0.12455	0.00300	2.40756
594.99286	0.13816	0.13184	0.13308	0.13436	0.00335	2.49104
590.01147	0.14946	0.14329	0.14442	0.14572	0.00328	2.25422
584.98663	0.16099	0.15377	0.15564	0.15680	0.00375	2.39127
579.99255	0.17346	0.16527	0.16670	0.16848	0.00437	2.59611
574.99231	0.18444	0.17583	0.17699	0.17908	0.00467	2.60863
569.98578	0.19598	0.18675	0.18783	0.19019	0.00504	2.65219
565.01050	0.20705	0.19746	0.19883	0.20111	0.00519	2.58109
559.99176	0.21909	0.20922	0.21057	0.21296	0.00535	2.51209
555.00452	0.23266	0.22151	0.22340	0.22586	0.00597	2.64183
550.01129	0.24565	0.23474	0.23639	0.23893	0.00588	2.46234
545.01221	0.26018	0.24810	0.24969	0.25266	0.00656	2.59703
540.00732	0.27393	0.26117	0.26309	0.26606	0.00688	2.58490
534.99677	0.28766	0.27490	0.27608	0.27955	0.00705	2.52133
530.01813	0.30171	0.28766	0.28966	0.29301	0.00760	2.59269
524.99628	0.31505	0.30148	0.30273	0.30642	0.00750	2.44835
520.00653	0.32693	0.31332	0.31519	0.31848	0.00738	2.31712
515.01141	0.33660	0.32304	0.32498	0.32821	0.00733	2.23378
510.01089	0.34462	0.33148	0.33320	0.33643	0.00715	2.12389
505.00497	0.35022	0.33686	0.33888	0.34199	0.00720	2.10609
499.99380	0.35485	0.34239	0.34425	0.34717	0.00672	1.93661

495.01538	0.36008	0.34738	0.34902	0.35216	0.00690	1.96064
489.99380	0.36385	0.35175	0.35325	0.35628	0.00660	1.85107
485.00519	0.36705	0.35532	0.35705	0.35981	0.00634	1.76069
480.01151	0.37163	0.35985	0.36204	0.36451	0.00626	1.71806
475.01291	0.37534	0.36409	0.36576	0.36840	0.00607	1.64692
470.00946	0.38017	0.36898	0.37062	0.37326	0.00604	1.61815
465.00101	0.38584	0.37442	0.37652	0.37893	0.00608	1.60329
459.98788	0.39128	0.38033	0.38247	0.38469	0.00580	1.50853
455.00827	0.39696	0.38590	0.38821	0.39036	0.00584	1.49491
449.98569	0.40172	0.39112	0.39284	0.39522	0.00569	1.43923
444.99686	0.40690	0.39626	0.39794	0.40036	0.00572	1.42882
440.00345	0.41135	0.40076	0.40311	0.40507	0.00556	1.37254
435.00555	0.41621	0.40482	0.40717	0.40940	0.00602	1.46953
430.00333	0.42150	0.41063	0.41269	0.41494	0.00578	1.39223
424.99667	0.42888	0.41804	0.41996	0.42229	0.00578	1.36946
419.98572	0.44114	0.43019	0.43235	0.43456	0.00580	1.33522
415.00906	0.45843	0.44769	0.44942	0.45184	0.00577	1.27705
409.98962	0.48360	0.47181	0.47384	0.47642	0.00630	1.32306
405.00467	0.51289	0.50178	0.50356	0.50608	0.00597	1.17948
400.01563	0.55027	0.53887	0.54032	0.54315	0.00621	1.14305

IV. HIGH RESOLUTION UPLC-MS

1) 2018 WINE

Table S20 : High resolution UPLC-MS for 2018 red wine

[M+H]+		2018 n1	2018 n2	2018 n3	Mean	Standard deviation	Variation coefficient (%)
287	Exact mass	287.0885	287.0885	287.0885	287.0885		
	Intensity	6.55E+05	6.01E+05	5.92E+05	616000	34035.7165	5.5
289	Exact mass	289.1032	289.1032	289.1032	289.1032		
	Intensity	2.20E+05	2.08E+05	2.03E+05	210100	9180.41393	4.4
291	Exact mass	291.125	291.1176	291.1176	291.120067		
	Intensity	2.35E+05	2.25E+05	2.28E+05	229300	5271.62214	2.3
303	Exact mass	303.0846	303.0846	303.0846	303.0846		
	Intensity	6.19E+06	5.72E+06	5.59E+06	5830666.67	313911.346	5.4
317	Exact mass	317.1007	317.1007	317.1007	317.1007		
	Intensity	4.42E+06	4.17E+06	4.15E+06	4247333.33	148288.008	3.5
319	Exact mass	319.0854	319.0854	319.0854	319.0854		
	Intensity	1.96E+06	1.75E+06	1.67E+06	1790333.33	147842.258	8.3
331	Exact mass	331.1239	331.1239	331.1239	331.1239		
	Intensity	1.14E+07	1.02E+07	9.51E+06	10389000	977518.798	9.4
333	Exact mass	333.1042	333.1042	333.0962	333.101533		
	Intensity	1.20E+06	1.05E+06	1.05E+06	1098666.67	89511.638	8.1
347	Exact mass	347.1152	347.1152	347.1152	347.1152		
	Intensity	6.76E+05	6.41E+05	6.35E+05	650666.667	22250.0187	3.4
409	Exact mass	409.1469	409.1381	409.1381	409.141033		
	Intensity	4.68E+05	4.41E+05	4.59E+05	456266.667	13770.3788	3.0
493	Exact mass	493.1945	493.1945	493.1945	493.1945		
	Intensity	4.21E+06	4.03E+06	4.12E+06	4117000	93016.1276	2.3
535	Exact mass	535.2134	535.2134	535.2134	535.2134		

	Intensity	4.10E+06	3.79E+06	3.73E+06	3873000	194432.508	5.0
536	Exact mass	536.2134	536.2134	536.2134	536.2134		
	Intensity	8.93E+05	8.55E+05	8.59E+05	868933.333	21001.984	2.4
577	Exact mass	577.2081	577.2081	577.2081	577.2081		
	Intensity	1.22E+05	1.09E+05	1.07E+05	112533.333	7836.02791	7.0
579	Exact mass	579.2229	579.2229	579.2229	579.2229		
	Intensity	7.68E+05	7.23E+05	7.07E+05	732733.333	31665.4912	4.3
581	Exact mass	581.2623	581.2623	581.2623	581.2623		
	Intensity	2.48E+05	2.24E+05	2.19E+05	230600	15429.8412	6.7
639	Exact mass	639.2562	639.2562	639.2562	639.2562		
	Intensity	3.26E+06	2.98E+06	2.87E+06	3038333.33	200253.173	6.6
640	Exact mass	640.2607	640.2607	640.2607	640.2607		
	Intensity	9.50E+05	8.71E+05	8.47E+05	889433.333	53891.867	6.1
867	Exact mass	867.3312	867.3312	867.3312	867.3312		
	Intensity	3.47E+05	3.13E+05	3.07E+05	321866.667	21628.7617	6.7

2) 2014 WINE

Table S21 : High resolution UPLC-MS for 2014 red wine

$[M+H]^+$		**2014 n1**	**2014 n2**	**2014 n3**	**Mean**	**Standard deviation**	**Variation coefficient (%)**
287	Exact mass	287.0885	287.0885	287.0885	287.0885		
	Intensity	1.20E+06	1.19E+06	1.15E+06	1179333.333	24785.7486	2.1

289	Exact mass	289.1106	289.1032	289.1032	289.1056667		
	Intensity	2.37E+05	2.29E+05	2.20E+05	228700	8860.58689	3.9
291	Exact mass	291.125	291.125	291.125	291.125		
	Intensity	4.31E+05	3.79E+05	3.54E+05	387800	39217.8531	10.1
303	Exact mass	303.0922	303.0846	303.0846	303.0871333		
	Intensity	1.04E+07	9.98E+06	9.82E+06	10070000	306196.016	3.0
317	Exact mass	317.1085	317.1085	317.1085	317.1085		
	Intensity	4.08E+06	3.75E+06	3.37E+06	3733666.667	356716.04	9.6
319	Exact mass	319.0854	319.0854	319.0854	319.0854		
	Intensity	2.10E+06	2.02E+06	1.87E+06	1993000	116567.577	5.8
331	Exact mass	331.1239	331.1239	331.1239	331.1239		
	Intensity	5.68E+05	5.31E+05	4.95E+05	531300	36450.1029	6.9
333	Exact mass	333.1042	333.1042	333.1042	333.1042		
	Intensity	7.89E+05	7.46E+05	6.90E+05	741733.3333	49525.3807	6.7
347	Exact mass	347.1233	347.1233	347.1233	347.1233		
	Intensity	5.90E+05	5.65E+05	5.09E+05	554500	41587.0172	7.5
409	Exact mass	409.1469	409.1469	409.1469	409.1469		
	Intensity	1.07E+06	1.02E+06	9.35E+05	1007033.333	67125.2809	6.7

493	Exact mass	493.2043	493.2043	493.1945	493.2010333		
	Intensity	2.38E+05	2.17E+05	2.01E+05	218933.3333	18461.1303	8.4
535	Exact mass	535.2134	535.2134	535.2134	535.2134		
	Intensity	7.68E+04	7.24E+04	6.94E+04	72846.66667	3730.11171	5.1
536	Exact mass	536.2235	536.2235	536.2235	536.2235		
	Intensity	2.49E+04	2.31E+04	2.16E+04	23223.33333	1626.60177	7.0
577	Exact mass	577.2081	577.2081	577.2081	577.2081		
	Intensity	8.51E+04	8.56E+04	8.01E+04	83600	3009.50162	3.6
579	Exact mass	579.2334	579.2334	579.2229	579.2299		
	Intensity	7.56E+05	6.81E+05	6.29E+05	688766.6667	63430.4606	9.2
581	Exact mass	581.2623	581.2623	581.2623	581.2623		
	Intensity	2.50E+05	2.37E+05	2.24E+05	236900	12852.6262	5.4
639	Exact mass	639.2562	639.2562	639.2562	639.2562		
	Intensity	1.56E+05	1.52E+05	1.38E+05	148400	9681.42551	6.5
640	Exact mass	640.2607	640.2607	640.2607	640.2607		
	Intensity	5.64E+04	5.47E+04	5.01E+04	53726.66667	3269.95923	6.1
867	Exact mass	867.3312	867.3312	867.3312	867.3312		
	Intensity	2.48E+05	2.39E+05	5.01E+04	179156.6667	111875	62.4

3) 2010 WINE

Table S22 : High resolution UPLC-MS for 2010 red wine

$[M+H]^+$		2010 n1	2010 n2	2010 n3	Mean	Standard deviation	Variation coefficient (%)
287	Exact mass	287.0959	287.0959	287.0959	287.0959		
	Intensity	5.66E+06	4.48E+06	3.56E+06	4565333.333	1052720.44	23.1
289	Exact mass	289.1106	289.1106	289.1106	289.1106		
	Intensity	5.51E+05	4.53E+05	3.78E+05	460500	86836.801	18.9
291	Exact mass	291.1325	291.125	291.125	291.1275		
	Intensity	7.33E+05	6.05E+05	5.61E+05	633333.3333	89433.8489	14.1
303	Exact mass	303.0922	303.0922	303.0922	303.0922		
	Intensity	2.90E+07	2.37E+07	1.92E+07	23946666.67	4911724.07	20.5
317	Exact mass	317.1162	317.1085	317.1085	317.1110667		
	Intensity	1.32E+07	1.02E+07	8.96E+06	10766333.33	2181797.5	20.3
319	Exact mass	319.0932	319.0932	319.0932	319.0932		
	Intensity	9.26E+06	6.69E+06	4.97E+06	6974666.667	2159915.35	31.0
331	Exact mass	331.1318	331.1318	331.1318	331.1318		
	Intensity	7.59E+05	5.81E+05	4.45E+05	595200	157410.959	26.4
333	Exact mass	333.1121	333.1121	333.1042	333.1094667		
	Intensity	3.24E+06	2.34E+06	1.99E+06	2524333.333	647337.109	25.6
347	Exact mass	347.1314	347.1314	347.1233	347.1287		
	Intensity	1.99E+06	1.46E+06	1.29E+06	1580000	360542.647	22.8
409	Exact mass	409.1558	409.1558	409.1469	409.1528333		

	Intensity	1.78E+06	1.43E+06	1.19E+06	1464333.333	298352.7	20.4
493	Exact mass	493.214	493.2043	493.2043	493.2075333		
	Intensity	1.99E+05	1.69E+05	1.46E+05	171100	26894.4232	15.7
535	Exact mass	535.2236	535.2236	535.2236	535.2236		
	Intensity	5.74E+04	4.67E+04	3.82E+04	47410	9612.55949	20.3
536	Exact mass	536.2336	536.2336	536.2336	536.2336		
	Intensity	2.57E+04	2.13E+04	1.68E+04	21246.66667	4465.33687	21.0
577	Exact mass	577.2291	577.2291	577.2291	577.2291		
	Intensity	1.51E+05	1.18E+05	9.17E+04	120243.3333	29754.2876	24.7
579	Exact mass	579.2439	579.2439	579.2334	579.2404		
	Intensity	8.55E+05	7.50E+05	6.84E+05	762933.3333	86474.4085	11.3
581	Exact mass	581.2833	581.2728	581.2728	581.2763		
	Intensity	5.87E+05	5.59E+05	4.79E+05	541933.3333	55986.1888	10.3
639	Exact mass	639.2673	639.2562	639.2562	639.2599		
	Intensity	2.05E+05	1.81E+05	1.51E+05	178800	27067.1387	15.1
640	Exact mass	640.2717	640.2607	640.2607	640.2644		
	Intensity	8.00E+04	6.87E+04	5.90E+04	69246.66667	10479.93	15.1
867	Exact mass	867.3569	867.3440	867.3440	867.3440		
	Intensity	2.81E+05	2.40E+05	2.09E+05	243200	35821.2228	14.7

4) 2018 WINE – HEAT TEST (60 °C)

Table S23 : High resolution UPLC-MS for 2018 wine at 60 °C

[M+H]+		2018 60°C n1	2018 60°C n2	2018 60°C n3	Mean	Standard deviation	Variation coefficient (%)
287	Exact mass	287.0959	287.0959	287.0885	287.093433		
	Intensity	1.04E+06	7.95E+05	7.31E+05	854100	160717.547	18.8
289	Exact mass	289.1106	289.1106	289.1106	289.1106		
	Intensity	3.36E+05	2.92E+05	2.66E+05	297933.333	35078.3884	11.8
291	Exact mass	291.125	291.125	291.125	291.125		
	Intensity	4.72E+05	4.20E+05	3.82E+05	424433.333	45202.3598	10.7
303	Exact mass	303.0922	303.0922	303.0922	303.0922		
	Intensity	9.32E+06	7.74E+06	6.72E+06	7926333.33	1313840.68	16.6
317	Exact mass	317.1085	317.1085	317.1085	317.1085		
	Intensity	6.64E+06	5.68E+06	5.02E+06	5781333.33	813967.035	14.1
319	Exact mass	319.0854	319.0854	319.0854	319.0854		
	Intensity	2.79E+06	2.55E+06	2.33E+06	2559666.67	229072.769	8.9
331	Exact mass	331.1239	331.1239	331.1239	331.1239		
	Intensity	1.29E+07	1.24E+07	1.13E+07	12230000	805791.536	6.6
333	Exact mass	333.1042	333.1042	333.1042	333.1042		
	Intensity	1.74E+06	1.57E+06	1.46E+06	1590000	141859.085	8.9
347	Exact mass	347.1233	347.1233	347.1233	347.1233		
	Intensity	1.15E+06	1.02E+06	9.47E+05	1039800	101844.587	9.8
409	Exact mass	409.1469	409.1469	409.1469	409.1469		
	Intensity	5.20E+05	4.71E+05	4.32E+05	474133.333	44361.7328	9.4
493	Exact mass	493.2043	493.2043	493.2043	493.2043		
	Intensity	5.84E+06	5.27E+06	4.73E+06	5280666.67	555591.877	10.5
535	Exact mass	535.2236	535.2236	535.2236	535.2236		
	Intensity	4.79E+06	4.06E+06	3.68E+06	4175000	566633.038	13.6
536	Exact mass	536.2235	536.2235	536.2235	536.2235		

	Intensity	1.09E+06	9.67E+05	9.24E+05	992966.667	85075.8681	8.6
577	Exact mass	577.2186	577.2186	577.2186	577.2186		
	Intensity	1.72E+05	1.49E+05	1.35E+05	151966.667	18788.6491	12.4
579	Exact mass	579.2334	579.2334	579.2334	579.2334		
	Intensity	1.12E+06	1.00E+06	9.12E+05	1012533.33	106021.947	10.5
581	Exact mass	581.2728	581.2728	581.2623	581.2693		
	Intensity	3.88E+05	3.26E+05	3.14E+05	342566.667	39684.5478	11.6
639	Exact mass	639.2673	639.2673	639.2562	639.2636		
	Intensity	3.58E+06	2.92E+06	2.71E+06	3072666.67	455105.848	14.8
640	Exact mass	640.2717	640.2607	640.2607	640.264367		
	Intensity	1.03E+06	8.80E+05	8.58E+05	921900	92547.3392	10.0
867	Exact mass	867.344	867.344	867.3312	867.339733		
	Intensity	4.86E+05	4.08E+05	3.87E+05	427033.333	52010.1272	12.2

5) 2018 WINE - LACCASE TEST

Table S24 : High resolution UPLC-MS for 2018 red wine – laccase oxidation test

$[M+H]^+$		2018 laccase n1	2018 laccase n2	2018 laccase n3	Mean	Standard deviation	Variation coefficient (%)
287	Exact mass	287.0885	287.0885	287.0885	287.0885		
	Intensity	5.99E+05	5.57E+05	5.25E+05	560200	37003.9187	6.6
289	Exact mass	289.1032	289.1032	289.1032	289.1032		
	Intensity	2.18E+05	2.07E+05	2.00E+05	208366.667	9115.00594	4.4
291	Exact mass	291.125	291.125	291.1176	291.122533		
	Intensity	2.64E+05	2.36E+05	2.26E+05	241966.667	20000.0833	8.3

303	Exact mass	303.0846	303.0846	303.0846	303.0846		
	Intensity	5.43E+06	5.12E+06	4.93E+06	5162333.33	250328.451	4.8
317	Exact mass	317.1085	317.1007	317.1007	317.1033		
	Intensity	3.68E+06	3.54E+06	3.49E+06	3569333.33	100818.318	2.8
319	Exact mass	319.0854	319.0854	319.0854	319.0854		
	Intensity	1.37E+06	1.24E+06	1.16E+06	1257000	102122.475	8.1
331	Exact mass	331.1239	331.1239	331.1239	331.1239		
	Intensity	1.06E+07	9.73E+06	8.80E+06	9699333.33	887978.791	9.2
333	Exact mass	333.1042	333.1042	333.1042	333.1042		
	Intensity	1.04E+06	9.36E+05	8.59E+05	943733.333	89477.6695	9.5
347	Exact mass	347.1233	347.1233	347.1233	347.1233		
	Intensity	7.18E+05	6.32E+05	5.82E+05	643733.333	68744.4786	10.7
409	Exact mass	409.1469	409.1469	409.1381	409.143967		
	Intensity	3.38E+05	3.01E+05	2.78E+05	305800	30164.2172	9.9
493	Exact mass	493.2043	493.1945	493.1945	493.197767		
	Intensity	3.77E+06	3.33E+06	3.47E+06	3522666.67	226294.793	6.4
535	Exact mass	535.2134	535.2134	535.2134	535.2134		
	Intensity	3.35E+06	3.14E+06	3.07E+06	3186333.33	144983.907	4.6
536	Exact mass	536.2235	536.2235	536.2134	536.220133		
	Intensity	7.85E+05	6.81E+05	6.81E+05	715733.333	59726.9063	8.3
577	Exact mass	577.2081	577.2081	577.2081	577.2081		
	Intensity	1.19E+05	1.11E+05	1.06E+05	111866.667	6951.49864	6.2
579	Exact mass	579.2229	579.2229	579.2229	579.2229		
	Intensity	7.37E+05	6.94E+05	6.85E+05	705000	27888.8867	4.0
581	Exact mass	581.2623	581.2623	581.2623	581.2623		
	Intensity	2.66E+05	2.44E+05	2.36E+05	248666.667	15851.2881	6.4
639	Exact mass	639.2562	639.2562	639.2562	639.2562		

	Intensity	2.69E+06	2.47E+06	2.32E+06	2494333.33	184925.21	7.4
640	Exact mass	640.2607	640.2607	640.2607	640.2607		
	Intensity	8.09E+05	7.36E+05	6.87E+05	744266.667	61339.2479	8.2
867	Exact mass	867.3312	867.3312	867.3312	867.3312		
	Intensity	3.48E+05	3.12E+05	2.98E+05	319633.333	25724.3724	8.0

6) 2018 WINE - HYDROGEN PEROXIDE TEST

Table S25 : High resolution UPLC-MS for 2018 wine – hydrogen peroxide oxidation test

[M+H]+		2018 H_2O_2 n1	2018 H_2O_2 n2	2018 H_2O_2 n3	Mean	Standard deviation	Variation coefficient (%)
287	Exact mass	287.0885	287.0885	287.0885	287.0885		
	Intensity	4.70E+05	4.24E+05	4.14E+05	436000	29960.1402	6.9
289	Exact mass	289.1032	289.1032	289.1032	289.1032		
	Intensity	2.09E+05	1.94E+05	1.88E+05	196933.333	10864.7749	5.5
291	Exact mass	291.1176	291.1176	291.1176	291.1176		
	Intensity	2.75E+05	2.51E+05	2.45E+05	256666.667	15837.0873	6.2
303	Exact mass	303.0846	303.0846	303.0846	303.0846		
	Intensity	5.38E+06	4.95E+06	4.83E+06	5053666.67	291453.827	5.8
317	Exact mass	317.1007	317.1007	317.1007	317.1007		
	Intensity	3.36E+06	3.14E+06	2.97E+06	3156333.33	196573.989	6.2
319	Exact mass	319.0854	319.0854	319.0854	319.0854		
	Intensity	1.19E+06	1.11E+06	1.08E+06	1127000	52716.2214	4.7
331	Exact mass	331.1239	331.1239	331.1239	331.1239		
	Intensity	4.95E+05	4.54E+05	4.37E+05	461833.333	30026.3773	6.5

333	Exact mass	333.0962	333.0962	333.0962	333.0962		
	Intensity	9.83E+05	9.34E+05	9.14E+05	943500	35544.7605	3.8
347	Exact mass	347.1152	347.1152	347.1152	347.1152		
	Intensity	1.10E+06	1.05E+06	1.01E+06	1050666.67	44185.2162	4.2
409	Exact mass	409.1381	409.1381	409.1381	409.1381		
	Intensity	2.01E+05	1.94E+05	1.85E+05	193333.333	8203.25139	4.2
493	Exact mass	493.1945	493.1945	493.1945	493.1945		
	Intensity	2.13E+05	1.99E+05	1.89E+05	200033.333	12027.1914	6.0
535	Exact mass	535.2134	535.2134	535.2134	535.2134		
	Intensity	1.96E+05	1.84E+05	1.76E+05	185166.667	9985.15565	5.4
536	Exact mass	536.2134	536.2134	536.2134	536.2134		
	Intensity	5.56E+04	5.21E+04	5.06E+04	52756.6667	2537.76148	4.8
577	Exact mass	577.2081	577.2081	577.2081	577.2081		
	Intensity	1.05E+05	9.97E+04	9.38E+04	99393.3333	5477.31078	5.5
579	Exact mass	579.2229	579.2229	579.2229	579.2229		
	Intensity	7.22E+05	6.74E+05	6.54E+05	683466.667	34671.0734	5.1
581	Exact mass	581.2623	581.2623	581.2623	581.2623		
	Intensity	3.16E+05	2.94E+05	2.88E+05	298933.333	14688.8847	4.9
639	Exact mass	639.2452	639.2452	639.2452	639.2452		
	Intensity	2.00E+05	1.92E+05	1.84E+05	192000	8107.40402	4.2
640	Exact mass	640.2496	640.2496	640.2496	640.2496		
	Intensity	7.15E+04	6.95E+04	6.34E+04	68120	4179.38991	6.1
867	Exact mass	867.3312	867.3312	867.3312	867.3312		
	Intensity	2.80E+05	2.61E+05	2.52E+05	264533.333	14368.484	5.4