

SUPPLEMENTARY TABLES

TABLE S1. List of descriptors generated through flash profile for wines recently fermented (A) and aged wines (B).

A	B
acetic	dried fruits
alcoholic	fruits in syrup
black fruits	fruity
dried fruits	green
fruits in syrup	lactic
leather	leather
red fruits	metallic
solvent	rubber, plastic
vegetal	spicy
white fruits	white fruits

TABLE S2. Composition of aroma vectors, their generic and specific aroma descriptors in isolation (De-la-Fuente-Blanco *et al.*, 2020). Compound in grey indicates that it was not detected.

generic descriptor	aroma vector	compounds	CAS	specific descriptor
acetic	acetic acid	acetic acid	64-10-7	acetic, vinegar
alcoholic, solvent	ethyl acetate	ethyl acetate	141-78-6	glue, ethyl acetate
	higher alcohols	β -phenylethanol	60-12-8	harsh, spirit, solvent
		isoamyl alcohol	123-51-3	
		isobutanol	78-83-1	
		benzyl alcohol	100-51-6	
		1-butanol	71-36-3	
		<i>cis</i> -3-hexenol	928-96-1	
		1-hexanol	111-27-3	
methionol	505-10-2			
flowery	cinnamates	ethyl dihydrocinnamate	2021-28-5	sweet, balsamic
		<i>trans</i> -ethyl cinnamate	103-36-6	
	ionones	β -ionone	201-224-3	violets, berry
		α -ionone	127-41-3	
	β -phenylethyl acetate	β -phenylethyl acetate	103-45-7	floral, rose, sweet
	rose oxide	(+)- <i>cis/trans</i> -rose oxide	16409-43-1	rose, litchi
	terpenes 1	β -citronellol	106-22-9	jasmine, muscat, orange blossom
		geraniol	106-24-1	
		linalool	78-70-6	
		nerol	106-25-2	
		1,8-cineole	470-82-6	
		<i>r</i> -limonene	5989-27-5	
terpenes 2	α -terpineol	98-55-5	jasmine, muscat, orange blossom	
	<i>cis/trans</i> -linalool oxide	60047-17-8		
fruity	acetates	isoamyl acetate	123-92-2	banana
		isobutyl acetate	110-19-0	
		hexyl acetate	142-92-7	
	β -damascenone	β -damascenone	23726-93-4	baked apple, dry plum

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	ethyl esters	ethyl 2-methylbutyrate	7452-79-1	fruity, apple, strawberry
		ethyl butyrate	105-54-4	
		ethyl hexanoate	123-66-0	
		ethyl isobutyrate	97-62-1	
		ethyl isovalerate	108-64-5	
		ethyl D/L-leucate	10348-47-7	
		ethyl octanoate	106-32-1	
		ethyl propanoate	105-37-3	
		diethyl succinate	123-25-1	
		ethyl lactate	97-64-3	
		ethyl 4-methylvalerate	25415-67-2	
		ethyl cyclohexanoate	3289-28-9	
	ethyl decanoate	110-38-3		
furaneol	furaneol	3658-77-3	strawberry, sugary	
γ-lactones	γ-nonalactone	104-61-0	peachy	
	massoia lactone	54814-64-1		
	γ-butyrolactone			
	γ-decalactone	706-14-9		
	γ-octalactone	104-50-7		
	<i>trans/cis</i> -whiskylactone	39638-67-0 55013-32-6		
lactic, acid	branched acids	isobutyric acid	79-31-2	cheese, sweaty
		isovaleric acid	503-74-2	
	diacetyl	diacetyl	431-03-8	buttery, milky, yogurt
	linear fatty acids	decanoic acid	334-48-5	cheese, soapy
		hexanoic acid	142-62-1	
octanoic acid		124-07-2		
spice, woody	methoxyphenols	4-ethylguaiacol	2785-89-9	clove, smoky
		4-vinylguaiacol	7786-61-0	
		4-vinylphenol	2628-17-3	
		guaiacol	90-05-1	
		<i>m</i> -cresol	108-39-4	
		methoxyeugenol	6627-88-9	
		<i>o</i> -cresol	95-48-7	
		<i>trans</i> -isoeugenol	97-54-1	
		eugenol	97-53-0	
		<i>p</i> -propylguaiacol	2785-87-7	
		syringol	91-10-1	
	ethylphenol	123-07-9		
TDN	TDN	30364-38-6	kerosene	
	vanillins	acetovanillone	498-02-2	vanilla, nutmeg
		vanillin	121-33-5	
		syringaldehyde	134-96-3	
yeasty, oxidized	acetaldehyde	acetaldehyde	75-07-0	green apple, oxidized
	acetoin	acetoin	513-86-0	

TABLE S3. Volatile concentration (average ± standard deviation) found in wines fermented with two *S. cerevisiae* strains in wines recently fermented and after accelerated ageing. Units are specified for each family of compounds. Significance of the factors yeast (IONYS or D254), aging (young or aged wines) and their interactions are indicated with a Y, T and * respectively (pvalue < 0.05). The first column indicates the olfaction threshold (OT) of each compound, associated reference is indicated within square brackets. n.d. indicates that the compound was not detected.

Compounds	OT	young wines		aged wines	
		D254	IONYS	D254	IONYS
ACIDS (mg/L)					
acetic acid YT	300 ^[1]	391 ± 20	106 ± 10	604 ± 100	323 ± 30
butyric acid	0.173 ^[2]	0.47 ± 0.04	0.50 ± 0.02	0.476 ± 0.007	0.48 ± 0.04
isobutyric acid Y	2.3 ^[2]	5.1 ± 0.4	3.1 ± 0.2	5.3 ± 0.8	2.9 ± 0.4
isovaleric acid YT	0.033 ^[2]	3.9 ± 0.1	3.5 ± 0.4	3.7 ± 0.3	2.7 ± 0.5
hexanoic acid Y	0.42 ^[2]	2.10 ± 0.04	2.3 ± 0.2	2.14 ± 0.06	2.2 ± 0.1
octanoic acid YT	0.5 ^[2]	1.67 ± 0.05	1.7 ± 0.1	1.50 ± 0.08	1.57 ± 0.09
decanoic acid Y	1 ^[2]	1.13 ± 0.07	3.0 ± 0.5	1.2 ± 0.1	3.2 ± 0.5
ALCOHOLS (mg/L)					
butanol Y	150 ^[4]	0.403 ± 0.003	0.64 ± 0.08	0.47 ± 0.07	0.65 ± 0.08
isobutanol Y	40 ^[5]	57 ± 1	39 ± 4	61 ± 10	37 ± 4
isoamyl alcohol Y	30 ^[5]	267 ± 4	295 ± 8	274 ± 20	285 ± 20
hexanol	8 ^[5]	1.42 ± 0.08	1.44 ± 0.02	1.4 ± 0.1	1.41 ± 0.08
c-3-hexenol Y	0.4 ^[5]	0.31 ± 0.02	0.282 ± 0.005	0.32 ± 0.01	0.282 ± 0.008
benzyl alcohol YT	200 ^[3]	0.108 ± 0.008	0.11 ± 0.01	0.17 ± 0.04	0.17 ± 0.03
β-phenylethanol Y	14 ^[2]	38.7 ± 0.5	77 ± 3	40 ± 2	75 ± 6
methionol YT	1 ^[2]	1.06 ± 0.09	2.3 ± 0.1	1.6 ± 0.2	2.8 ± 0.2
CARBONYLS (mg/L)					
acetaldehyde Y	0.5 ^[5]	4.5 ± 0.7	7 ± 1	4.9 ± 0.5	6.5 ± 0.6
acetoin Y*	150 ^[4]	1.2 ± 0.2	0.4 ± 0.1	0.7 ± 0.2	0.4 ± 0.1
diacetyl T*	0.1 ^[5]	0.4 ± 0.2	0.21 ± 0.06	0.12 ± 0.04	0.14 ± 0.02
γ-butyrolactone YT	35 ^[3]	3.8 ± 0.3	5.65 ± 0.04	9 ± 1	11.5 ± 0.9
ESTERS (mg/L)					
ethyl acetate YT*	12.3 ^[6]	42.6 ± 0.5	40.6 ± 0.6	71 ± 4	31 ± 3
ethyl propanoate YT	5.5 ^[7]	0.096 ± 0.002	0.19 ± 0.02	0.15 ± 0.01	0.21 ± 0.01
ethyl butyrate YT	0.125 ^[7]	0.09 ± 0.01	0.088 ± 0.003	0.100 ± 0.005	0.113 ± 0.002
isoamyl acetate YT	0.030 ^[5]	0.29 ± 0.01	0.29 ± 0.05	0.17 ± 0.03	0.14 ± 0.01
ethyl hexanoate YT	0.062 ^[7]	0.22 ± 0.02	0.25 ± 0.03	0.19 ± 0.01	0.22 ± 0.02
hexyl acetate	1.5 ^[4]	n.d.	n.d.	n.d.	n.d.
ethyl octanoate YT	0.58 ^[4]	0.23 ± 0.03	0.21 ± 0.01	0.045 ± 0.003	0.05 ± 0.01
ethyl decanoate	0.2 ^[2]	n.d.	n.d.	n.d.	n.d.
ethyl lactate YT*	154 ^[4]	8 ± 3	1.72 ± 0.04	26 ± 6	6.0 ± 0.7
diethyl succinate YT*	200 ^[4]	0.34 ± 0.02	0.45 ± 0.05	4.9 ± 0.5	6.7 ± 0.4
ESTERS (µg/L)					
ethyl isobutyrate YT*	15 ^[2]	90 ± 9	67 ± 9	384 ± 27	277 ± 41
isobutyl acetate YT*	1605 ^[1]	53 ± 2	42 ± 1	55 ± 4	23 ± 2
ethyl 2-methylbutyrate YT	18 ^[2]	8.7 ± 0.6	8.5 ± 0.7	44 ± 5	42 ± 5
ethyl isovalerate YT	3 ^[2]	12.5 ± 0.7	11.1 ± 0.6	64 ± 6	58 ± 5
ethyl 4-methylvalerate	0.75 ^[7]	n.d.	n.d.	n.d.	n.d.
b-phenylethyl acetate T	250 ^[5]	665 ± 200	932 ± 80	136 ± 3	139 ± 10
ethyl leucate YT*	300 ^[8]	57 ± 6	77 ± 7	177 ± 9	235 ± 30
ethyl cyclohexanoate	0.03 ^[7]	n.d.	n.d.	n.d.	n.d.
CINNAMATES (µg/L)					
t-ethyl cinnamate YT	1.1 ^[2]	2.0 ± 0.4	1.6 ± 0.2	8 ± 2	7 ± 1
ethyl dihydrocinnamate Y	1.6 ^[2]	0.24 ± 0.02	0.34 ± 0.04	0.24 ± 0.03	0.350 ± 0.008
LACTONES (µg/L)					
γ-octalactone	238 ^[10]	n.d.	n.d.	n.d.	n.d.
γ-nonalactone Y	30 ^[9]	7 ± 1	7.2 ± 0.3	7 ± 1	7.3 ± 0.6

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γ -decalactone	88 ^[4]	n.d.	n.d.	n.d.	n.d.
massoia lactone Y	11 ^[11]	1.1 ± 0.4	3 ± 1	2.0 ± 0.4	2.5 ± 0.4
t/c-whiskylactone	790/67 ^[12]	n.d.	n.d.	n.d.	n.d.
furaneol	5 ^[1]	n.d.	n.d.	n.d.	n.d.
NORISOPRENOIDS (µg/L)					
(+)-rose oxide YT	80 ^[13]	0.061 ± 0.003	0.071 ± 0.006	0.049 ± 0.003	0.06 ± 0.01
α -ionone	2.6 ^[4]	0.08 ± 0.01	0.065 ± 0.009	0.067 ± 0.006	0.071 ± 0.009
β -ionone T	0.09 ^[2]	0.31 ± 0.03	0.28 ± 0.03	0.24 ± 0.01	0.25 ± 0.02
β -damascenone Y	0.05 ^[5]	2.8 ± 0.2	3.4 ± 0.4	3.1 ± 0.3	3.5 ± 0.3
TDN YT*	2 ^[14]	0.07 ± 0.02	0.07 ± 0.01	1.6 ± 0.1	2.5 ± 0.2
vitispirane YT* (relative area)	-	n.d.	n.d.	0.31 ± 0.03	0.39 ± 0.02
Riesling acetal YT (relative area)	-	n.d.	0.021 ± 0.004	0.35 ± 0.02	0.39 ± 0.03
TERPENES (µg/L)					
R-limonene *	34 ^[18]	21 ± 2	18 ± 2	19.3 ± 0.6	20 ± 1
nerol YT*	300 ^[16]	0.90 ± 0.08	1.18 ± 0.05	0.49 ± 0.05	0.53 ± 0.04
1,8-cineole *	1.1 ^[15]	0.74 ± 0.07	0.58 ± 0.07	0.62 ± 0.04	0.71 ± 0.08
β -citronellol YT*	40 ^[16]	5.0 ± 0.2	9.5 ± 0.4	1.3 ± 0.1	1.8 ± 0.4
α -terpineol YT*	250 ^[2]	0.99 ± 0.07	1.8 ± 0.2	4.08 ± 0.08	8.8 ± 0.6
geraniol YT*	30 ^[5]	3.5 ± 0.1	12 ± 1	n.d.	n.d.
linalool YT*	25.2 ^[2]	2.9 ± 0.1	7.6 ± 0.6	1.4 ± 0.1	1.7 ± 0.3
linalool oxide YT	4000 ^[17]	0.38 ± 0.05	0.44 ± 0.06	5.6 ± 0.2	6.6 ± 0.7
VANILLINS (µg/L)					
vanillin YT	200 ^[5]	8.1 ± 0.5	9 ± 2	13.3 ± 0.8	13 ± 1
acetovanillone Y	1000 ^[3]	48 ± 4	55 ± 6	48 ± 2	53 ± 5
syringaldehyde Y*	50000 ^[3]	36 ± 10	35 ± 5	53 ± 5	33 ± 4
PHENOLS (µg/L)					
4-ethylguaiaicol	33 ^[2]	n.d.	n.d.	n.d.	n.d.
4-vinylguaicol YT	1100 ^[2]	4.6 ± 0.8	4.6 ± 0.7	9.9 ± 0.7	10.7 ± 0.5
4-vinylphenol YT*	180 ^[19]	12 ± 1	12 ± 2	25 ± 2	35 ± 3
4-ethylphenol	440 ^[19]	n.d.	n.d.	n.d.	n.d.
eugenol	6 ^[2]	1.2 ± 0.1	1.0 ± 0.3	1.15 ± 0.07	1.0 ± 0.3
guaiaicol T	9.5 ^[2]	1.4 ± 0.1	1.5 ± 0.2	5.7 ± 0.4	5.3 ± 0.4
m-cresol YT	200 ^[19]	0.101 ± 0.008	0.18 ± 0.04	0.26 ± 0.04	0.41 ± 0.08
methoxyeugenol YT*	1200 ^[3]	0.8 ± 0.1	0.99 ± 0.08	3.51 ± 0.04	4.6 ± 0.7
o-cresol Y	120 ^[219]	0.74 ± 0.05	0.81 ± 0.06	0.81 ± 0.02	0.83 ± 0.06
p-propylguaiaicol	10 ^[7]	n.d.	n.d.	n.d.	n.d.
syringol	570 ^[20]	n.d.	n.d.	n.d.	n.d.
t-isoeugenol YT	6 ^[3]	0.28 ± 0.06	0.35 ± 0.03	0.24 ± 0.02	0.294 ± 0.005

OT were taken from: [1] (Ferreira *et al.*, 2002) in 10% water/ethanol, pH 3.2 ; [2] (Ferreira *et al.*, 2000) in 11% water/ethanol, pH = 3.4, 7 g/L glycerol, 5 g/L tartaric acid; [3] (Ana Escudero *et al.*, 2007) in 10% water/ethanol, pH = 3.2, 5 g/L tartaric acid; [4] (Etievant, 1991) in 12% water/ethanol, except for t-whiskylactone in 30% ethanol, and t-2-hexenol in beer; [5] (Guth, 1997) in 10% water/ethanol; [6] (A. Escudero *et al.*, 2004) in 10% water/ethanol, 5 g/L tartaric acid, pH 3.2; [7] (San Juan *et al.*, 2012) p. 10% water/ethanol, pH = 3.2, 5 g/L tartaric acid; [8] (Falcao *et al.*, 2012) in 12% water/ethanol, 4g/L tartaric acid, pH = 3.5 ; [9] (Nakamura *et al.*, 1988) in 10% ethanol/dealcoholized and dearomatized wine; [10] (Cooke *et al.*, 2009) in red wine, 12.8% ethanol, pH = 3.50, SO₂ levels 117 mg/L total and 21 mg/L free; [11] (Pons *et al.*, 2017) 12% water/ethanol, pH 3.5, 5 g/L tartaric acid; [12] (Otsuka *et al.*, 1974) 30% water/ethanol; [13] (Yamamoto *et al.*, 2002) in water; [14] (Sacks *et al.*, 2012) in 10% water/ethanol, 1% tartaric acid; [15] (Poitou *et al.*, 2017) in red wine; [16] (Ohloff, 1978) in water; [17] (Ribéreau-Gayon *et al.*, 1975) in sweet water; [18] (Averbeck & Schieberle, 2009) in water, pH = 3.8 ; [19] (Boidron *et al.*, 1988) in 12% water/ethanol, 8 g/L glycerol and different salts; [20] (López *et al.*, 2002) in 10% water/ ethanol, pH = 3.2, 5 g/L tartaric acid.

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Table S4: Results of ANOVA to evaluate the effect of the factors aging (young or aged), yeast (IONS or D254) and their interaction, indicated with a Y, T and * (p-values < 0.05, indicated in bold)

	aging	yeast	aging*yeast
acetic acid TY	1.27E-04	1.79E-05	9.39E-01
ethyl acetate TY*	1.51E-04	3.70E-07	8.15E-07
higher alcohols Y	4.01E-01	8.14E-05	4.26E-01
cinnamates T	9.19E-06	2.14E-01	4.18E-01
ionones T	4.55E-03	2.94E-01	1.64E-01
β-phenylethyl acetate T	1.46E-05	9.40E-02	1.01E-01
terpenes 1 TY	3.58E-05	6.37E-03	1.54E-01
acetates T	6.45E-05	4.04E-01	4.30E-01
β-damascenone Y	2.44E-01	1.56E-02	5.03E-01
ethyl esters TY	5.59E-08	2.30E-02	8.87E-02
γ-lactones TY	1.07E-03	1.76E-02	7.93E-01
branched acids Y	1.55E-01	2.46E-04	1.68E-01
diacetyl T	6.01E-03	8.24E-02	5.37E-02
linear fatty acids Y	2.32E-01	7.58E-06	5.49E-01
methoxyphenols T	1.17E-06	8.60E-01	9.32E-01
TDN TY*	5.18E-10	5.44E-05	5.72E-05
acetaldehyde Y	8.95E-01	1.95E-03	2.86E-01

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