OS	Strain	Geographic, Isolated by, Year and refereces	Source
288/A	273614X	Royal Victoria Infirmary, Newcastle UK, Galloway A	Clinical isolate (Fecal)
287/A	378604X	Royal Victoria Infirmary, Newcastle UK, Galloway A	Clinical isolate (Sputum)
181	BC187*	Napa Valley, Bisson L, USA[Ref]	Barrel Fermentation
150/A	DBVPG1106*	Australia, 1947, Fornachon J	Grapes
91/A	DBVPG1373	Netherlands, Capriotti A, 1952[Ref]	Soil
84/A	DBVPG1788	Turku, Finland, Capriotti A, 1957[Ref]	Soil
92/A	DBVPG1853	Ethiopia, Rossi, 1959[Ref]	White Teff
155/A	DBVPG6040	Netherlands, 1947[Ref]	Fermenting fruit juice
60/A	DBVPG6044	West Africa, Guillermond A, 1925[Ref]	Bili wine, from *Osbeckia grandiflora*
3/A	DBVPG6765	Unknown[Ref]	Unknown
251/A/A	K11	Japan, 1981[Ref]	Shochu sake strain
220/A	L-1374*	Cauquenes, Chile, Ganga A, 1999	Fermentation from must País
21/A	L-1528*	Cauquenes, Chile, Ganga A, 1999	Fermentation from must Cabernet
247/A	NCYC110	West Africa, Guillermond A, pre-1914[Ref]	Ginger beer from *Z.officinale*
96	S288c	Merced, California, USA, Mrak E, 1938[Ref]	Rotting fig
17/A	SK1	USA, Kane S, pre-1974[Ref]	Soil
278/A	UWOPS03-461.4	Telok Senangin, Malaysia, Wiens F, 2003[Ref]	Nectar, Bertram palm
280/A	UWOPS05-227.2	Telok Senangin, Malaysia, Lachance M, 2005	*Trigona spp* (Stringless bee) collected near Bertam palm flower
279/A	UWOPS05-217.3	Telok Senangin, Malaysia, Lachance M, 2005	Nectar, Bertram palm
270/A	UWOPS83-787.3	Great Inagua Island, Bahamas, 1983, Lachance M	Fruit, *Opuntia stricta*
271/A	UWOPS87-2421	Puhelu Road, Maui, Hawaii, Lachance M, 1987	Cladode, *Opuntia megacantha*
281	W303	Created by Rothstein R by multiple crossing[Ref]	NA
253/A/A	Y12	Ivory Cost, pre-1981[Ref]	Palm wine strain
97/A	Y55*	France, Winge Ö, between 1930-60[Ref]	Grape
252/A	Y9	Indonesia, pre-1962[Ref]	Ragi (similar to sake wine)
174	YIIc17_E5*	Sauternes, France	Wine
308/A	YJM975*	Ospedali Riuniti di Bergamo, Italy, 1994-6[Ref]	Isolated from vagina of patient suffering from vaginitis
303/A	YJM978*	Ospedali Riuniti di Bergamo, Italy, 1994-6[Ref]	Isolated from vagina of patient suffering from vaginitis
304/A	YJM981*	Ospedali Riuniti di Bergamo, Italy, 1994-6[Ref]	Isolated from vagina of patient suffering from vaginitis
182	YPS606	Pennsylvania, USA, Sniegowski P, 1999[Ref]	Bark of *Q.rubra*
258/A/A	YS2	Australia[Ref]	Baker strain
259/A/A	YS4	Netherlands, 1975, Barnett J[Ref]	Baker strain
262/A/A	YS9	Singapore[Ref]	Baker strain

Table S1. Set of 33 *S.cerevisiae* strains recently sequenced from wine and divers origins (Liti G, Carter DM, Moses AM, Warringer J, Parts L, James SA, Davey RP, Roberts IN, Burt A, Koufopanou V, Tsai IJ, Bergman CM, Bensasson D, O'Kelly MJ, van Oudenaarden A, Barton DB, Bailes E, Nguyen AN, Jones M, Quail MA, Goodhead I, Sims S, Smith F, Blomberg A, Durbin R, Louis EJ, 2009, Nature, 19, 458 (7236) : 337-41). OS column: accession number in the internal collection at the University of Nottingham. OSNNN/A means a single spore was isolated from the original diploid and OSNNN/A/A indicates this process was repeated. The absence of any /A indicates that either the strain was haploid or that a monosporic culture was provided. *Strains related to wine fermentation

Table S2. Set of 35 *S.cerevisiae* strains commonly used in Aquitaine region, as industrial yeast starters in organic and conventional farming.

Commercial name	Strain	Distributor
Actiflore cerevisiae	522D	Laffort
Excellence B2		Lamothe Abiet
Lalvin BM 45		Lallemand
Levuline CHP	CIVC8130	Oenofrance
Lalvin CY 3079	BourgoBlanc	Lallemand
Excellence C1 Val oeno		Lamothe Abiet
Zymaflore F10	FZ 182	Laffort
Zymaflore F15		Laffort
Actiflore F33	F33	Laffort
Fermol Arome plus	PB2010	Spindal
Fermivin	7013	Littorale
Zymaflore FX10		Laffort
ICV-GRE	138 grenache	ICV
K1	Killer non marquée	Lallemand
L.A. L13	L13	Lamothe Abiet
Rhône L2226		Lallemand
Lallferm bio		IOC / Lallemand
Lalvin QA23	QA23	Lallemand
Lalvin 71B	71B	Lallemand
Levuline ALS	EG8	Oenofrance
Levuline BRG	UP 30Y5	Oenofrance
Oenoferm Bio		Littorale
Vitilevure KD	R2	Martin Vialatte
Zymaflore RX60	rx60	Laffort
SP organic		Martin Vialatte
Uvaferm CEG	CEG - Epernay 2	Lallemand
Achor vin 13	vin 13	Littorale
Vitilevure quartz		Martin Vialatte
Zymaflore VL1	vl1	Laffort
Zymaflore VL3	lv3	Laffort
Zymaflore X16	x16	Laffort
Zymaflore X5	x5	Laffort
Zymaflore ST		Laffort
Zymaflore 011 organiq		Laffort
UvaFerm BC		Lallemand

Table S3.

Characteristics of the microsatellite loci used for *Saccharomyces cerevisiae* genotyping: repeated motif, closest ORF on *S. cerevisiae* genome, primer sequence, fluorescence dye, mix number and concentration used for 8 samples PCR mix preparation for each marker.

Site name	Motif and type	ORF or coordinates	Primers	fluorescent dye	Multiplex	Quantity (nM)	Authors
ScAAT2	TAA	YBL084c	FW: CAGTCTTATTGCCTTGAACGA RV: GTCTCCATCCTCCAAACAGCC	PET	1	100	4
ScAAT3	TAA	YDR160w	FW: TGGGAGGAGGGAAATGGACAG RV: TTCAGTTACCCGCACAATCTA	NED	1	200	1, 3
C5	GT	VI-210250/210414	FW: TGACACAATAGCAATGGCCTTCA RV: GCAAGCGACTAGAACAACAATCACA	VIC	1	50	5
C3	CAA	YGL139w	FW: CTTTTTATTTACGAGCGGGCCAT RV: AAATCTCATGCCTGTGAGGGGTAT	NED	1	100	5
C8	TAA	YGL014w	FW: CAGGTCGTTCTAACGTTGGTAAAATG RV: GCTGTTGCTGTTGGTAGCATTACTGT	6FAM	1	25	5
C11	GT	X-518870/519072	FW: TTCCATCATAACCGTCTGGGATT RV: TGCCTTTTTCTTAGATGGGCTTTC	6FAM	1	50	5
YKR072c	GAC	YKR072c	FW: AGATACAGAAGATAAGAACGAAAA RV: TTATTGATGCTTATCTATTATACC	PET	1	50	1, 2
SCYOR267c	TGT	YOR267c	FW: TACTAACGTCAACACTGCTGCCAA RV: GGATCTACTTGCAGTATACGGG	VIC	1	100	1, 4
YKL172w	GAA	YKL172w	FW: CAGGACGCTACCGAAGCTCAAAAG RV: ACTTTTGGCCAATTTCTCAAGAT	6FAM	2	25	2
ScAAT1	TTA	XIII-86902/87140	FW: AAAGCGTAAGCAATGGTGTAGATACTT RV: CAAGCCTCTTCAAGCATGACCTTT	VIC	2	100	1, 3, 4
C4	TAA+TAG	XV-110701/110935	FW: AGGAGAAAAATGCTGTTTATTCTGACC RV: TTTTCCTCCGGGACGTGAAATA	NED	2	200	5
C9	TAA	YOR156c	FW: AAGGGTTCGTAAACATATAACTGGCA RV: TATAAGGGAAAAGAGCACGATGGC	NED	2	100	5
ScAAT5	TAA	XVI-897051/8970210	FW: AGCATAATTGGAGGCAGTAAAGCA RV: TCTCCGTCTTTTTTGTACTGCGTG	NED	2	100	5
C6	CA	XVI-485898/485996	FW: GTGGCATCATATCTGTCAATTTTATCAC RV: CAATCAAGCAAAAGATCGGCCT	VIC	2	50	5
YPL009c	CTT	YPL009c	FW: AACCCATTGACCTCGTTACTATCGT RV: TTCGATGGCTCTGATAACTCCATTC	6FAM	2	50	1, 4

Authors:

1. **Field D**, **Wills C**. 1998. Abundant microsatellite polymorphism in Saccharomyces cerevisiae, and the different distributions of microsatellites in eight prokaryotes and S. cerevisiae, result from strong mutation pressures and a variety of selective forces. Proc Natl Acad Sci U S A **95**:1647–1652.

2. **Hennequin C**, **Thierry A**, **Richard GF**, **Lecointre G**, **Nguyen HV**, **Gaillardin C**, **Dujon B**. 2001. Microsatellite Typing as a New Tool for Identification of Saccharomyces cerevisiae Strains. J Clin Microbiol **39**:551–559.

3. **Pérez M a.**, **Gallego F j.**, **Martínez I**, **Hidalgo P**. 2001. Detection, distribution and selection of microsatellites (SSRs) in the genome of the yeast Saccharomyces cerevisiae as molecular markers. Lett Appl Microbiol **33**:461–466.

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a

	C	A	B	D	E	F
C	**NA**	0.02 (0.06)	0.11 (<0.001)	0.06 (<0.001)	0.09 (<0.001)	0.09 (<0.001)
A	0.02 (0.06)	**NA**	0.02 (<0.001)	0.58 (<0.001)	0.03 (<0.001)	0.18 (<0.001)
B	0.11 (<0.001)	0.02 (<0.001)	**NA**	0.09 (<0.001)	0.04 (<0.001)	0.10 (<0.001)
D	0.06 (<0.001)	0.58 (<0.001)	0.09 (<0.001)	**NA**	0.10 (<0.001)	0.50 (<0.001)
E	0.09 (<0.001)	0.03 (<0.001)	0.04 (<0.001)	0.10 (<0.001)	**NA**	0.09 (<0.001)
F	0.09 (<0.001)	0.18 (<0.001)	0.10 (<0.001)	0.50 (<0.001)	0.09 (<0.001)	**NA**

b

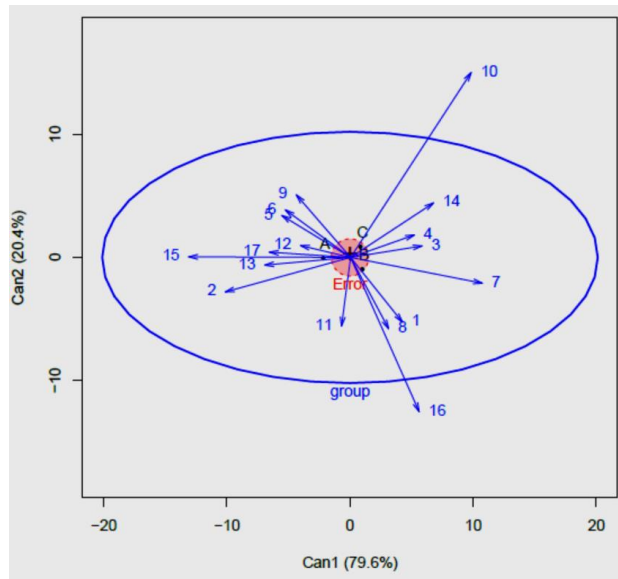|	A	C	B
A	**NA**	0.11 (<0.001)	0.10 (<0.001)
C	0.11 (<0.001)	**NA**	0.04 (<0.001)
B	0.10 (<0.001)	0.04 (<0.001)	**NA**

Table S4.

Pairwise matrix of R^2 values between **a.** the 3 Sauternes and 3 Merlot wine estates and **b.** the only 3 Sauternes wines estates (with P.value).

a.
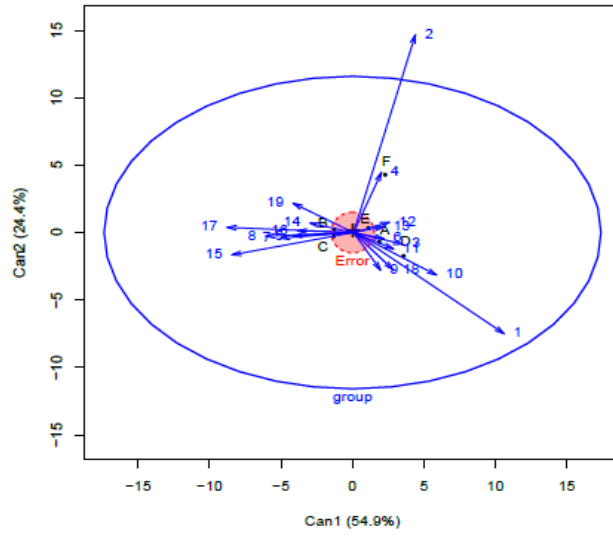
b.

Figure S1. Canonical discriminant analysis on the *Saccharomyces cerevisiae* dataset a. from Sauternes and Merlot and b. only from Sauternes. The HE plot shows the relation of variation of the group means on two variables relative to the error variance. The arrows indicate the position of the inferred populations relative to the axes obtained by the canonical discriminant analysis and red circle reflects the pooled within-group dispersion. The black points indicate predefined populations of wine estate A, B, C, D, E and F while numbers at the arrows indicate inferred populations.