

Table S1. Forty-five commercial wine yeast strains used in this work (kindly provided by Lincoln University Winery).

Yeast strains	Genetic background	IDT	Wine styles[†]
Commercial strains			
AWRI Fusion*	<i>S. cerevisiae</i> x <i>S. cariocanus</i>	30	White and red wines
Cepage Cabernet	<i>S. cerevisiae</i>	34	Cabernet Franc as well as Cabernet Sauvignon
Cepage Chardonnay	<i>S. cerevisiae</i> -Strain n° LW05	33	Chardonnay
Collection CepagePinot	<i>S. cerevisiae</i>	4	Express the typicity of Pinot Noir
Cross Evolution	<i>S. cerevisiae</i>	28	White and rosé wines only
Enartisferm Aroma White	<i>S. cerevisiae</i>	11	White and fruity rosés wines; late harvest sweet wines
Enoferm AMH™	<i>S. cerevisiae</i>	29	Red wines only
Enoferm M1	<i>S. cerevisiae</i>	17	White, rosé and dessert wine production
Fermi champ	<i>S. cerevisiae</i>	19	Ideal yeast for problem fermentation
Fermicru 4F9*	<i>S. cerevisiae</i> -Strain n° 4F9	30	Aromatic white wines, particularly for ageing on lees
Fermicru AR2	<i>S. cerevisiae</i> -Strain n° L0122	10	White and rosé wines
Fermicru Rosé*	<i>S. cerevisiae</i> -Strain n°LW10	30	For rosé wines aroma management
Fermicru XL	<i>S. cerevisiae</i> -Strain n° CECTA 11947	32	Fruity red wines
IOC 18-2007*	<i>S. cerevisiae</i>	3	Sparkling wine production; White, rosé, red wines
Lalvin C	<i>S. cerevisiae</i>	23	White wines, fruit wine and cider production
Lalvin CLOS	<i>S. cerevisiae</i>	26	Red wines only
Lalvin CY 3079	<i>S. cerevisiae</i>	27	White wine
Lalvin DV10*	<i>S. cerevisiae</i>	3	Sparkling, white, rosé and red wine; fruit wine and cider
Lalvin EC1118*	<i>S. cerevisiae</i>	3	Wide range of application, white, rosé, and red wines
Lalvin ICV D47	<i>S. cerevisiae</i>	35	Chardonnay and other white varieties
Lalvin OKAY	<i>S. cerevisiae</i>	24	White, rosé, and red wine
Lalvin RC212	<i>S. cerevisiae</i>	25	Pinot Noir, red wines
Lalvin Rhone 2226	<i>S. cerevisiae</i>	2	Red wines
LalvinQA 23*	<i>S. cerevisiae</i>	3	Fresh, fruit focused whites; high β-glucosidase activity; Riesling
Levuline BRG	<i>S. cerevisiae</i>	15	White and red wines

Maurivin AWRI 350	<i>S. cerevisiae</i>	12	White wines; sweet wines
Maurivin PDM*	<i>S. cerevisiae</i>	3	White and red wines
Premium Chardonnay	<i>S. cerevisiae</i>	13	White wines
PREMIUM®PROTIOL	<i>S. cerevisiae</i>	3	White and rosé elegant wines
Renaissance Allegro	<i>S. cerevisiae</i>	22	An ester-producing yeast for more aromatic modern white wines
Renaissance Andante	<i>S. cerevisiae</i>	8	Red wines
Renaissance Brio (Brioso)	<i>S. cerevisiae</i>	5	Red wines
Renaissance Maestoso	<i>S. cerevisiae</i>	7	Red wines
Renaissance Vivace	<i>S. cerevisiae</i>	20	White wines
Rennaissance Ossia	<i>S. cerevisiae</i>	21	An organic yeast for aromatic organic wines; white, red, fruit wines and cider
Safoeno™ CK	<i>S. cerevisiae</i>	10	White and fruity rosés wines; Vinho Verde type wines
Sauvignon L3	<i>S. cerevisiae</i>	18	White wines (Sauvignon blanc)
UCD522	<i>S. cerevisiae</i>	14	Popular-Complex, varietal red wines (or white)
Velluto Evolution™	<i>S. cerevisiae</i> /uvarum (hybrid)	1	Red wines
Viniflora Jazz	<i>S. cerevisiae</i>	3	Rosé and Red wines
Vitilevure Syrah	<i>S. cerevisiae</i>	16	Syrah; red, fruity rosé, and varietal wines
Zymaflore VL1	<i>S. cerevisiae</i>	31	“terroir” white wines (Chardonnays)
Zymaflore VL3	<i>S. cerevisiae</i>	18	White wines (Sauvignon blanc)
Zymaflore X5	<i>S. cerevisiae</i>	6	White and rosé wines
ZYMAFLORE® X16	<i>S. cerevisiae</i>	9	White and rosé wines
Wild isolates			
SV1-28	<i>S. cerevisiae</i>	50	
SV2-25	<i>S. cerevisiae</i>	36	
SV2-26	<i>S. cerevisiae</i>	36	
SV2-27	<i>S. cerevisiae</i>	36	
SV3-1	<i>S. cerevisiae</i>	36	
SV3-2	<i>S. cerevisiae</i>	36	
SV3-3	<i>S. cerevisiae</i>	36	

SV3-4	<i>S. cerevisiae</i>	36
SV3-5	<i>S. cerevisiae</i>	36
SV3-18	<i>S. cerevisiae</i>	37
SV2-19	<i>S. cerevisiae</i>	37
SV3-20	<i>S. cerevisiae</i>	37
SV4-1	<i>S. cerevisiae</i>	36
SV4-2	<i>S. cerevisiae</i>	36
SV4-3	<i>S. cerevisiae</i>	38
SV4-4	<i>S. cerevisiae</i>	36
SV4-5	<i>S. cerevisiae</i>	36
SV4-6	<i>S. cerevisiae</i>	36
SV4-7	<i>S. cerevisiae</i>	37
SV4-8	<i>S. cerevisiae</i>	39
SV4-9	<i>S. cerevisiae</i>	40
SV4-10	<i>S. cerevisiae</i>	51
SV4-11	<i>S. cerevisiae</i>	3
SV4-12	<i>S. cerevisiae</i>	41
SV4-13	<i>S. cerevisiae</i>	45
SV4-14	<i>S. cerevisiae</i>	40
SV4-15	<i>S. cerevisiae</i>	43
SV4-16	<i>S. cerevisiae</i>	47
SV4-17	<i>S. cerevisiae</i>	52
SV4-18	<i>S. cerevisiae</i>	3
SV4-19	<i>S. cerevisiae</i>	3
SV4-20	<i>S. cerevisiae</i>	45
SV4-21	<i>S. cerevisiae</i>	48
SV4-22	<i>S. cerevisiae</i>	49
SW2-4	<i>S. cerevisiae</i>	36
SW2-5	<i>S. cerevisiae</i>	36
SW2-6	<i>S. cerevisiae</i>	36

SW3-3	<i>S. cerevisiae</i>	36
SW3-5	<i>S. cerevisiae</i>	36
SW3-6	<i>S. cerevisiae</i>	37
SW3-7	<i>S. cerevisiae</i>	36
SW3-8	<i>S. cerevisiae</i>	36
SW3-9	<i>S. cerevisiae</i>	36
SW4-2	<i>S. cerevisiae</i>	36
SW4-3	<i>S. cerevisiae</i>	42
SW4-5	<i>S. cerevisiae</i>	43
SW4-6	<i>S. cerevisiae</i>	36
SW4-7	<i>S. cerevisiae</i>	44
SW4-8	<i>S. cerevisiae</i>	36
SW4-9	<i>S. cerevisiae</i>	36
SW4-10	<i>S. cerevisiae</i>	36
SW4-11	<i>S. cerevisiae</i>	3
SW4-12	<i>S. cerevisiae</i>	3
SW4-13	<i>S. cerevisiae</i>	3
SW4-15	<i>S. cerevisiae</i>	45
SW4-16	<i>S. cerevisiae</i>	45
SW4-17	<i>S. cerevisiae</i>	46
SW4-18	<i>S. cerevisiae</i>	45
SW4-19	<i>S. cerevisiae</i>	46
SW4-20	<i>S. cerevisiae</i>	45

* Fermicru_ROSÉ, AWRI_Fusion, Lalvin DV10, Fermicru 4F9, Lalvin EC 1118, Lalvin QA 23, IOC 18-2007, and Maurivin PDM are associated with the Prise de Mousse (PDM) collection of Champagne production (Dunn et al. 2012, Borneman et al. 2016); IDT: inter-delta types; [†]A brief annotation on wine styles based on the manufacturer's recommendations.