

Figure S1: Phenotypic profiling to chitosan No Brett Inside® of a set of commercially available strains for wine fermentation, as unveiled by spot assay. Ten-fold dilutions were spotted on an MMB plate and incubated for 2-3 days;

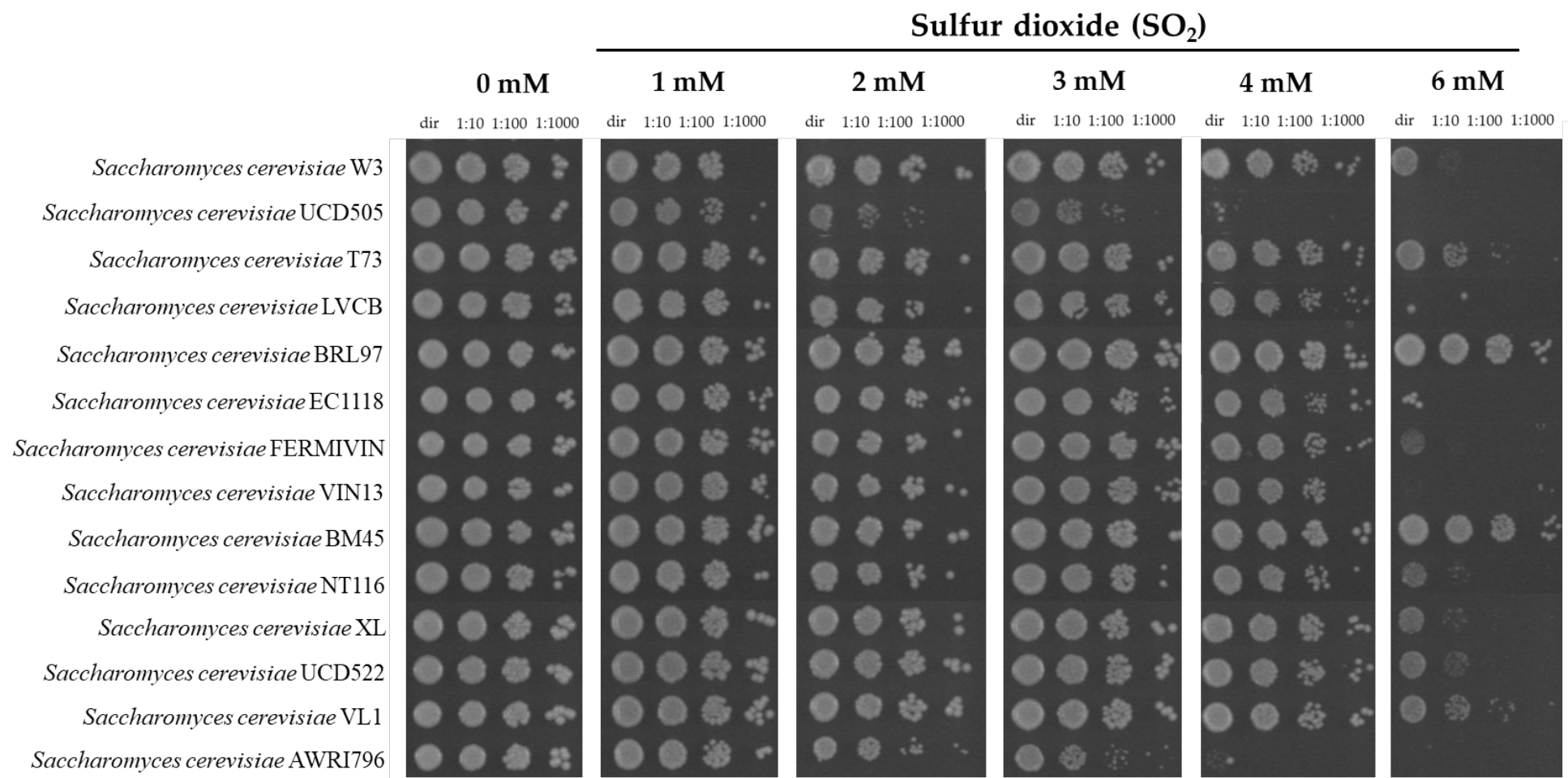
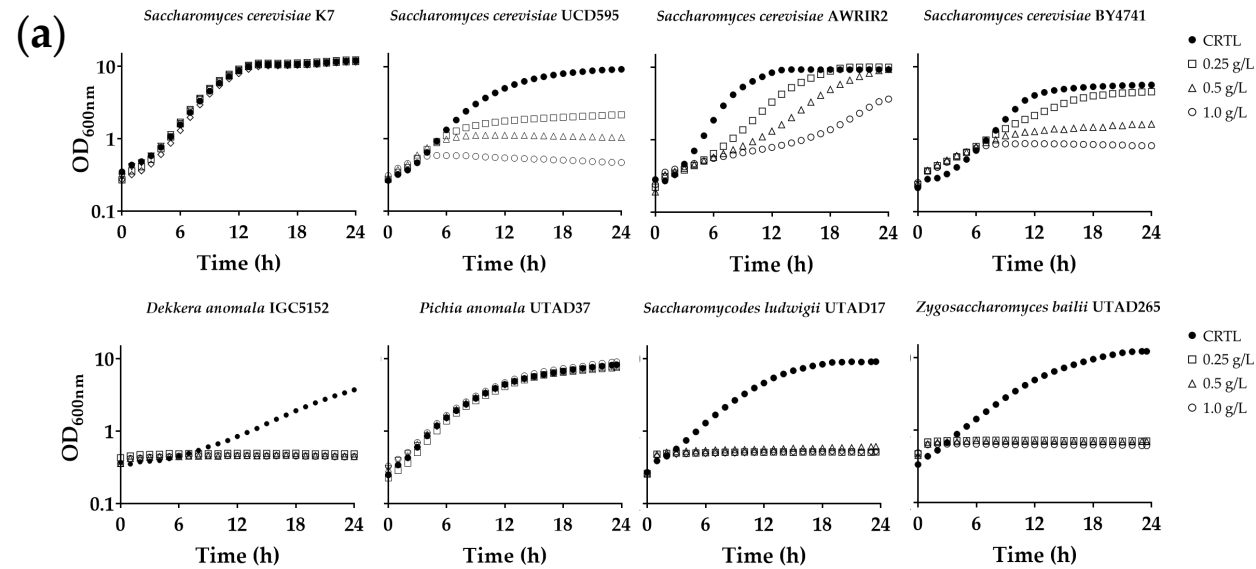


Figure S2: Phenotypic profiling to SO₂ of a set of commercially available strains for wine fermentation, as unveiled by spot assay. Ten-fold dilutions were spotted on an MMB plate and incubated for 2-3 days;



(b)

Strain	0 g/L		0.25 g/L		0.5 g/L		1 g/L	
	AUC	μ (h ⁻¹)	AUC	μ (h ⁻¹)	AUC	μ (h ⁻¹)	AUC	μ (h ⁻¹)
<i>Saccharomyces cerevisiae</i> K7	169 ± 5.10	0.75 ± 0.01	169 ± 1.70	0.75 ± 0.01	163 ± 6.94	0.75 ± 0.01	162 ± 2.49	0.73 ± 0.01
<i>Saccharomyces cerevisiae</i> UCD595	114 ± 3.09	0.54 ± 0.05	36.4 ± 3.67	0.21 ± 0.02	23.3 ± 0.29	0.07 ± 0.01	12.5 ± 0.45	nd
<i>Saccharomyces cerevisiae</i> AWRIR2	146 ± 2.87	0.73 ± 0.03	108 ± 3.00	0.62 ± 0.01	70.2 ± 4.15	0.52 ± 0.01	28.5 ± 3.87	0.38 ± 0.03
<i>Saccharomyces cerevisiae</i> BY4741	76.6 ± 3.36	0.56 ± 0.01	55.8 ± 4.90	0.48 ± 0.03	27.1 ± 3.21	0.24 ± 0.03	18.3 ± 0.54	0.16 ± 0.04
<i>Dekkera anomala</i> IGC5152	36.2 ± 1.68	0.34 ± 0.01	12.8 ± 0.22	nd	11.8 ± 1.61	nd	10.7 ± 0.29	nd
<i>Pichia anomala</i> UTAD37	102 ± 4.19	0.50 ± 0.04	102 ± 2.87	0.50 ± 0.02	102 ± 9.23	0.49 ± 0.01	102 ± 2.36	0.49 ± 0.01
<i>Saccharomyces ludwigii</i> UTAD17	115 ± 0.47	0.54 ± 0.01	13.4 ± 0.90	nd	12.3 ± 0.64	nd	12.0 ± 1.21	nd
<i>Zygosaccharomyces bailii</i> UTAD265	134 ± 2.05	0.53 ± 0.05	16.2 ± 2.44	nd	16.0 ± 1.81	nd	16.1 ± 1.76	nd

Abbreviations: nd – not determined; AUC – Area Under the Curve

Figure S3: Growth curves of three commercial *S. cerevisiae* strains (K7, UCD595 and AWRIR2) and the laboratory strain BY4741 and four spoilage yeast (*Dekkera anomala* IGC5152, *Pichia anomala* UTAD37, *Saccharomyces ludwigii* UTAD17 and *Zygosaccharomyces bailii* UTAD265) in MMB media (at pH 3.5) at different chitosan concentrations (0.25, 0.5 and 1 g/L) (a). All the experiments were repeated at least 3 times; (b) Effect of chitosan No Brett Inside® on some fermentation parameters for each strain tested. Values are expressed in mean ±SD;

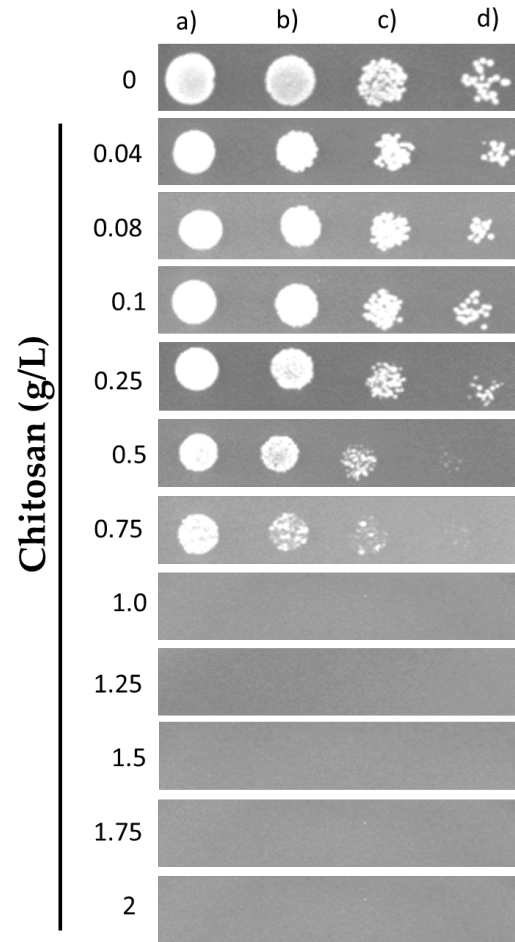


Figure S4: Comparison of the susceptibility to chitosan No Brett inside® of the *Saccharomyces cerevisiae* BY4741 parental strain by spot assay, at the indicated concentrations of chitosan in MMB (pH 3.5) agarized medium. Cells used to prepare the spots were grown in MMB liquid medium, in absence of chitosan, until mid-exponential phase. Lanes b); c) and d) are, respectively, 1:10; 1:100 and 1:1000 dilutions of the suspension used in lane a);

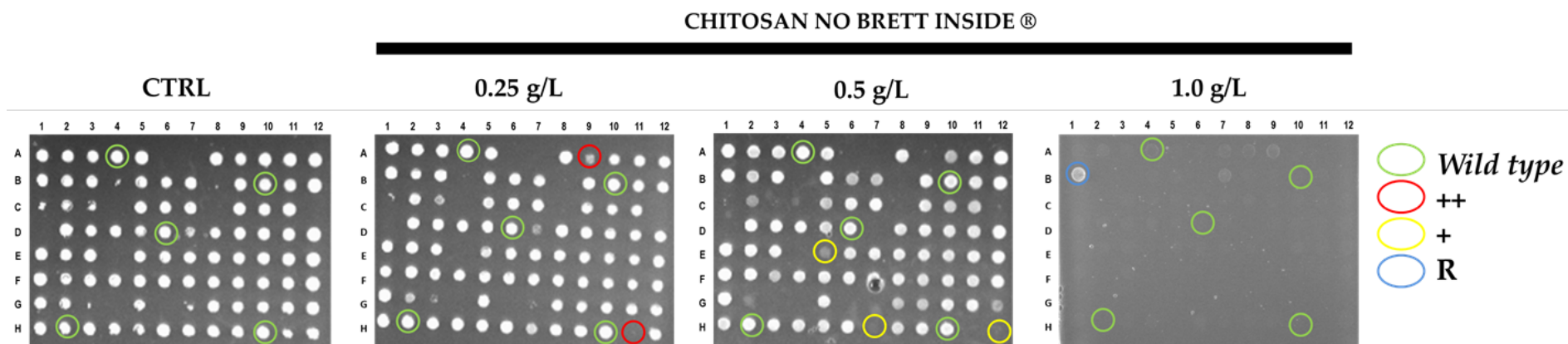


Figure S5: Illustrative example of deletion strains exhibiting different susceptibility profiles. Two levels of susceptibility were considered, based on growth deficiency in the presence of increasing levels of chitosan of the deletion mutants tested, compared to the parental strain (BY4741). Mutant strains displaying growth in the presence of 1.0 g/L (chitosan) were labelled as resistant. Legend: code: (+) susceptible phenotype; (++) hyper-susceptible phenotype; (R) resistant phenotype; BY4741, wild type;

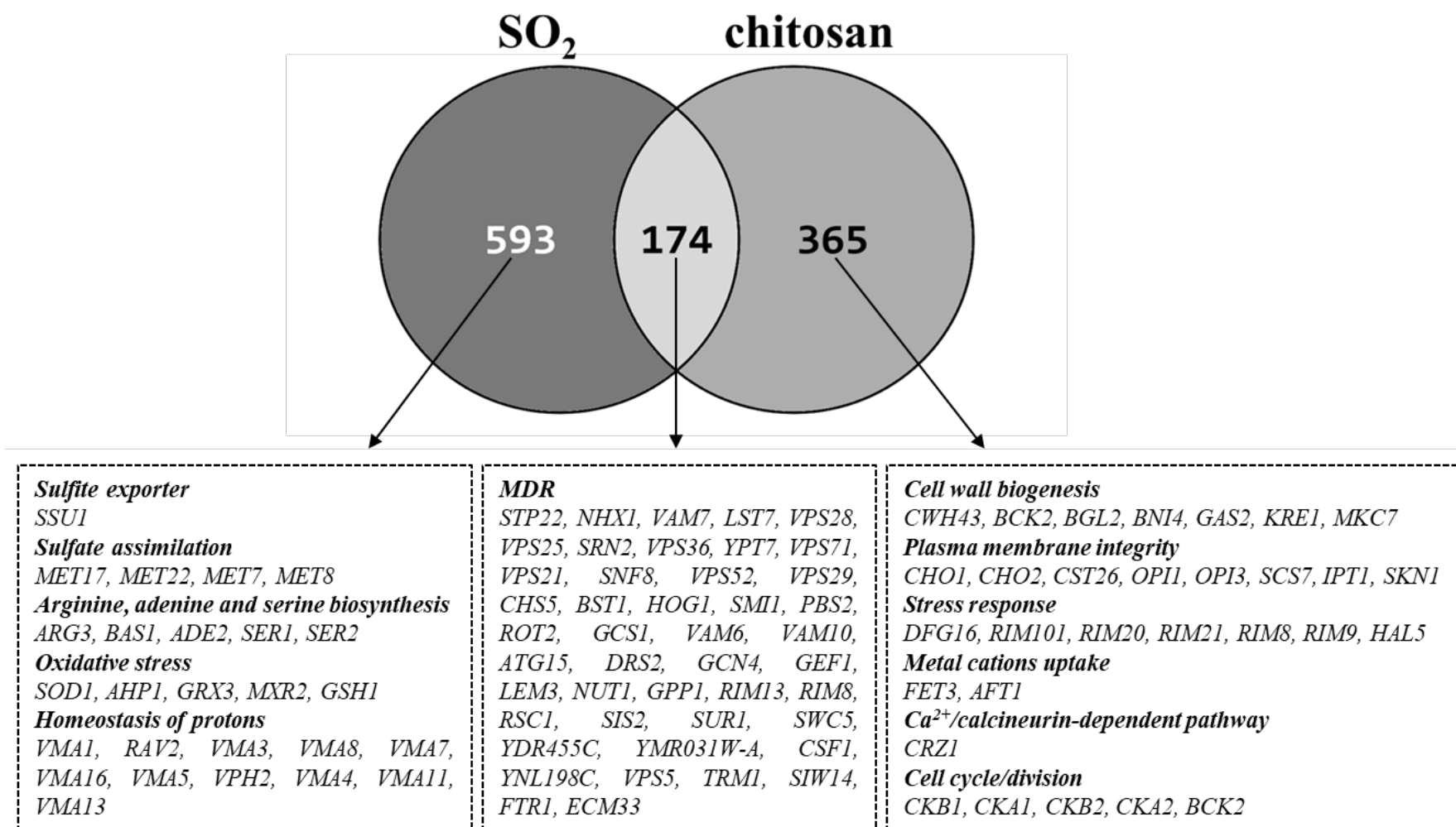


Figure S6: Venn diagram comparing genes that were found to confer resistance to SO₂ with those that were found to confer resistance to chitosan No Brett inside®. Abbreviations: MDR - Multi-Drug Resistance genes;