

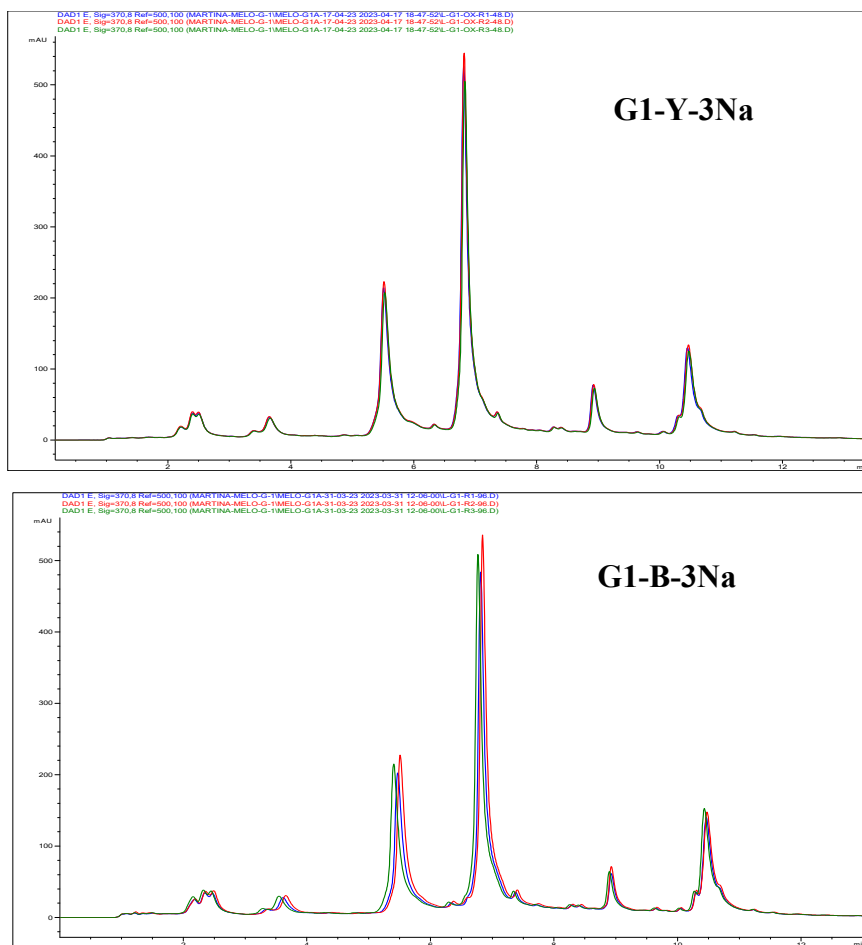
Supplementary material of the article

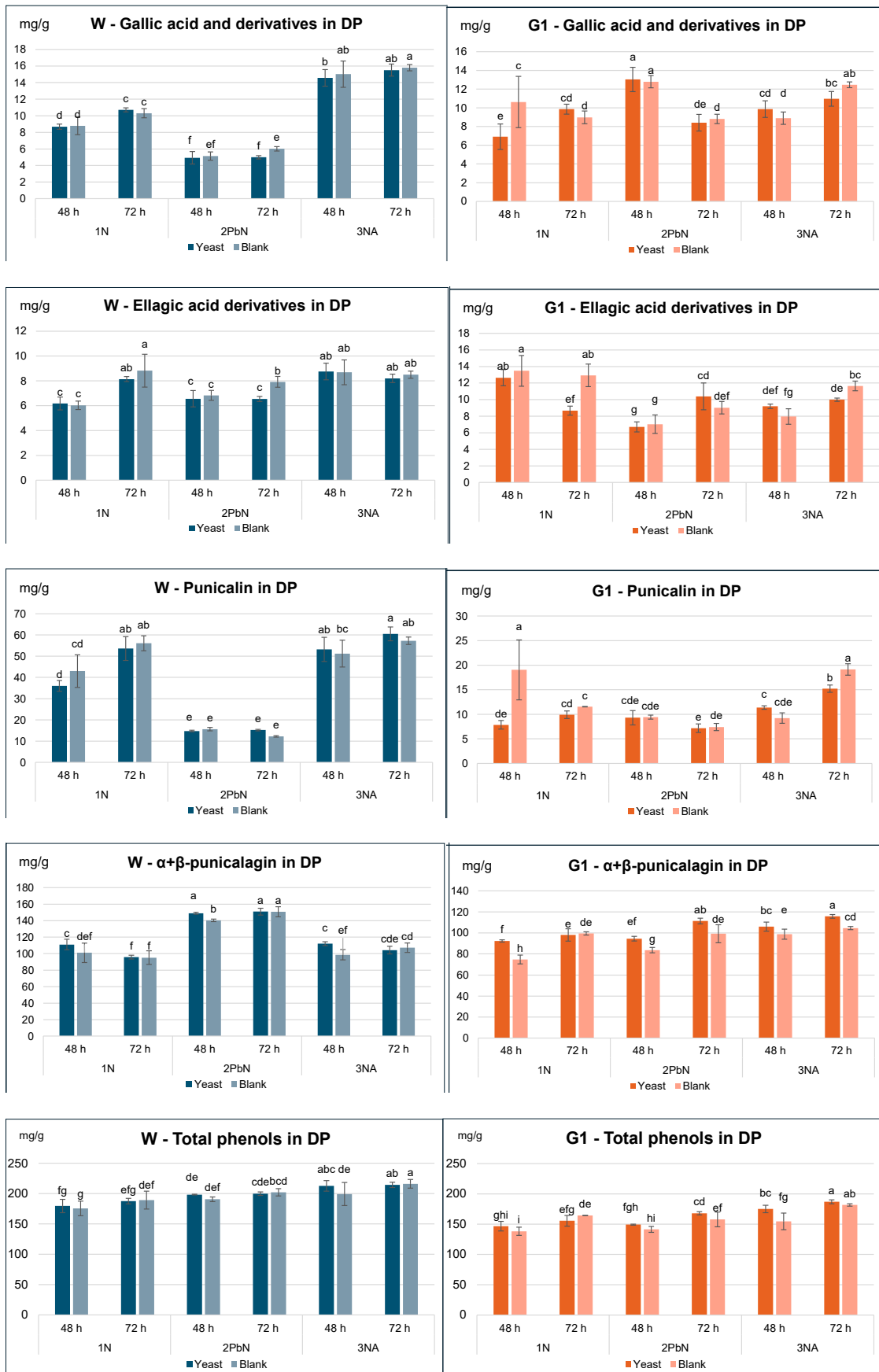
# ***Saccharomyces cerevisiae* Fermentation of Pomegranate Peel By-Product Yields Tannin-Rich Extracts and Potentially Prebiotic Polysaccharides**

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**Figure S1.** Profiles at 370 nm of the triplicates of samples from G1 variety after 48 hours of fermentation: B, blank sample and Y sample with yeast.





**Figure S2.** Phenolic content expressed as mg/g on dried peel (DP) in Wonderful (blue - light blue) and G1 (orange - pink) varieties. Bar charts represent the variation of phenols in samples as a function of treatment, fermentation type and

fermentation time. Data are expressed as average  $\pm$  SD of triplicates. For each molecule, including total phenols, different letters in a graphic indicate significant differences at  $p < 0.05$ .

**Table S1.** Data processing of the main tannins analyzed for Wonderful (A) and G1 (B) varieties. For each variable, results from three-factor ANOVA are reported, where the factors are the treatment (Tr), the type of fermentation (TyF) and the fermentation time (FT). The two-way and three-way interactions are also reported.

A - Wonderful	Treatment	Type of Fermentation		Tr×TyF	Tr×FT	TyF×FT	Tr×TyF×FT
	(Tr)	fermentation (TyF)	time (FT)				
Gallic acid and derivatives (DP)	n.s.	***	***	n.s.	n.s.	n.s.	n.s.
Punicalin (DP)	n.s.	***	**	n.s.	n.s.	**	n.s.
$\alpha$ + $\beta$ -punicalagin (DP)	*	***	n.s.	n.s.	**	**	n.s.
Ellagic acid derivative (DP)	n.s.	***	***	n.s.	n.s.	***	n.s.
Total phenols (DP)	n.s.	**	**	n.s.	n.s.	n.s.	n.s.
Gallic acid and derivatives (DE)	***	***	***	***	n.s.	n.s.	n.s.
Punicalin (DE)	***	***	***	***	n.s.	*	n.s.
$\alpha$ + $\beta$ -punicalagin (DE)	***	***	n.s.	***	*	***	n.s.
Ellagic acid derivative (DE)	***	***	***	*	n.s.	***	*
Total phenols (DE)	***	***	*	**	n.s.	n.s.	*
Extract yield	***	***	n.s.	***	n.s.	***	***

B - G1	Treatment	Type of Fermentation		Tr×TyF	Tr×FT	TyF×FT	Tr×TyF×FT
	(Tr)	fermentation (TyF)	time (FT)				
Gallic acid and derivatives (DP)	n.s.	**	n.s.	n.s.	n.s.	***	**
Punicalin (DP)	***	***	n.s.	**	n.s.	***	***
$\alpha$ + $\beta$ -punicalagin (DP)	***	***	***	n.s.	n.s.	*	**
Ellagic acid derivative (DP)	*	***	*	**	*	***	**
Total phenols (DP)	**	***	***	n.s.	*	n.s.	n.s.
Gallic acid and derivatives (DE)	***	***	n.s.	*	n.s.	***	**
Punicalin (DE)	***	***	***	***	n.s.	***	n.s.
$\alpha$ + $\beta$ -punicalagin (DE)	***	***	***	***	n.s.	*	***
Ellagic acid derivative (DE)	***	***	**	*	n.s.	***	**
Total phenols (DE)	***	***	***	***	n.s.	***	*
Extract yield	***	n.s.	n.s.	*	n.s.	*	n.s.

For each parameter, (\*\*\*) indicates a significant effect at  $p < 0.001$ , (\*\*) indicates a significant effect at  $p < 0.01$ , (\*) indicates a significant effect at  $p < 0.05$ , (n.s.) indicates a non-significant effect.

**Table S2.** Percentage of ethanol after fermentation by *Saccharomyces c*, at 48 hrs and 72 hrs.

Samples	% EtOH	
	48 hrs	72 hrs
W-Y-3Na	1.28 $\pm$ 0.04	1.27 $\pm$ 0.03
W-Y-1N	1.21 $\pm$ 0.02	1.27 $\pm$ 0.12
W-Y-2PbN	1.32 $\pm$ 0.12	1.25 $\pm$ 0.10
G1-Y-3Na	1.17 $\pm$ 0.08	1.14 $\pm$ 0.03
G1-Y-1N	1.05 $\pm$ 0.06	1.06 $\pm$ 0.08
G1-Y-2PbN	1.12 $\pm$ 0.08	1.02 $\pm$ 0.09