

Supplementary Materials

Article

Compositional Consequences of Ultrafiltration Treatment of White and Red Wines

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Table S1. Relative proportion of titratable acidity (TA), alcohol, protein, total phenolics and polysaccharides observed in retentate (R) and permeate (P), (and overall, Δ, relative to initial wine composition), following pilot-scale ultrafiltration of white wine with 20 and 10 kDa MWCO membranes and different degrees of permeation.

Membrane MWCO (kDa)	Permeation Degree (%)	TA (g/L)			Alcohol (abv)			Protein (mg/L)			Total Phenolics (a.u.)			Polysaccharides (g/L)		
		R	P	Δ	R	P	Δ	R	P	Δ	R	P	Δ	R	P	Δ
20	50	51%	46%	97%	49%	47%	97%	50%	19%	59%	37%	35%	72%	50%	22%	72%
	80	21%	75%	96%	20%	78%	98%	18%	30%	48%	25%	61%	86%	39%	33%	72%
	90	11%	86%	97%	10%	88%	98%	16%	27%	43%	16%	69%	85%	31%	37%	68%
	95	6%	90%	96%	5%	94%	99%	18%	33%	51%	15%	85%	100%	31%	52%	84%
10	50	47%	41%	88%	46%	42%	88%	45%	15%	60%	45%	5%	50%	52%	14%	66%
	80	21%	72%	93%	19%	69%	88%	44%	25%	69%	27%	23%	50%	39%	22%	61%
	90	10%	81%	91%	9%	83%	93%	33%	27%	60%	17%	34%	50%	55%	22%	77%
	95	6%	92%	98%	5%	93%	98%	50%	34%	84%	20%	74%	94%	38%	33%	71%

Table S2. Relative proportion of titratable acidity (TA), alcohol, protein, total phenolics and polysaccharides observed in retentate (R) and permeate (P), (and overall, Δ, relative to initial wine composition), following pilot-scale ultrafiltration of red wine with 75, 20 and 10 kDa MWCO membranes and different degrees of permeation.

Membrane MWCO (kDa)	Permeation Degree (%)	TA (g/L)			Alcohol (abv)			Total Anthocyanins (mg/L)			Total Phenolics (a.u.)			Polysaccharides (g/L)		
		R	P	Δ	R	P	Δ	R	P	Δ	R	P	Δ	R	P	Δ
75	50	53%	43%	96%	48%	48%	96%	70%	17%	87%	51%	17%	68%	45%	4%	49%
	80	24%	70%	94%	19%	77%	96%	43%	26%	69%	31%	28%	59%	32%	2%	35%
	90	13%	83%	96%	10%	89%	99%	26%	33%	59%	22%	34%	55%	20%	6%	26%
	95	8%	88%	96%	5%	94%	99%	22%	29%	51%	17%	31%	48%	12%	3%	15%
20	50	54%	40%	94%	48%	47%	95%	77%	14%	91%	56%	14%	71%	53%	2%	55%
	80	25%	66%	91%	19%	77%	96%	53%	20%	72%	40%	21%	62%	41%	3%	44%
	90	13%	81%	94%	10%	88%	98%	41%	24%	65%	24%	27%	51%	50%	4%	55%
	95	7%	89%	96%	5%	94%	99%	24%	34%	58%	19%	35%	54%	60%	4%	64%
10	50	68%	34%	102%	48%	47%	95%	90%	1%	92%	65%	2%	67%	58%	2%	60%
	80	37%	56%	93%	18%	77%	95%	75%	2%	77%	59%	4%	63%	52%	3%	55%
	90	20%	63%	83%	10%	88%	98%	43%	1%	45%	30%	4%	34%	141%	0%	141%

Table S3. Relative proportion of titratable acidity (TA), alcohol, total phenolics, polysaccharides and brown pigments observed in retentate (R) and permeate (P), (and overall, Δ, relative to initial wine composition), following pilot-scale ultrafiltration of an excessively phenolic wine with a 10 kDa MWCO membrane and 95% permeation.

TA (g/L)			Alcohol (abv)			Total Phenolics (a.u.)			Polysaccharides (g/L)			Brown Pigments (a.u.)		
R	P	Δ	R	P	Δ	R	P	Δ	R	P	Δ	R	P	Δ
8%	82%	90%	5%	93%	98%	27%	48%	75%	27%	0%	27%	35%	28%	63%



Figure S1. Changes in wine colour observed following pilot-scale ultrafiltration treatment of **(a)** a red wine and **(b)** a high-phenolic wine.