APPENDIX A. SUPPLEMENTARY MATERIAL

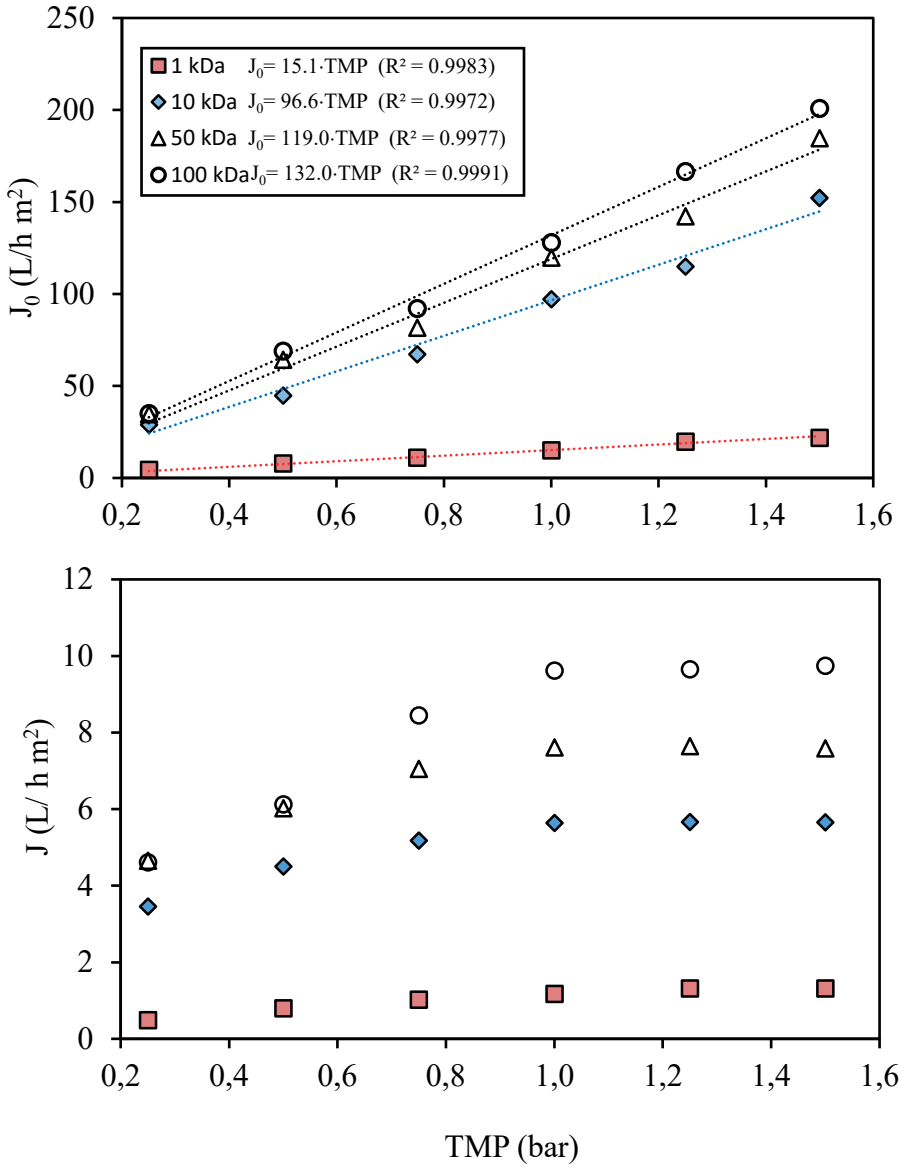

Figure S1. Effect of the transmembrane pressure (TMP) on permeate flux during the filtration of pure water (J_0) and the onion skin hydrolysate (J) at 25 ºC and 1.5 m s^{-1} of crossflow velocity for the 1, 10, 50 and 100 kDa membranes.

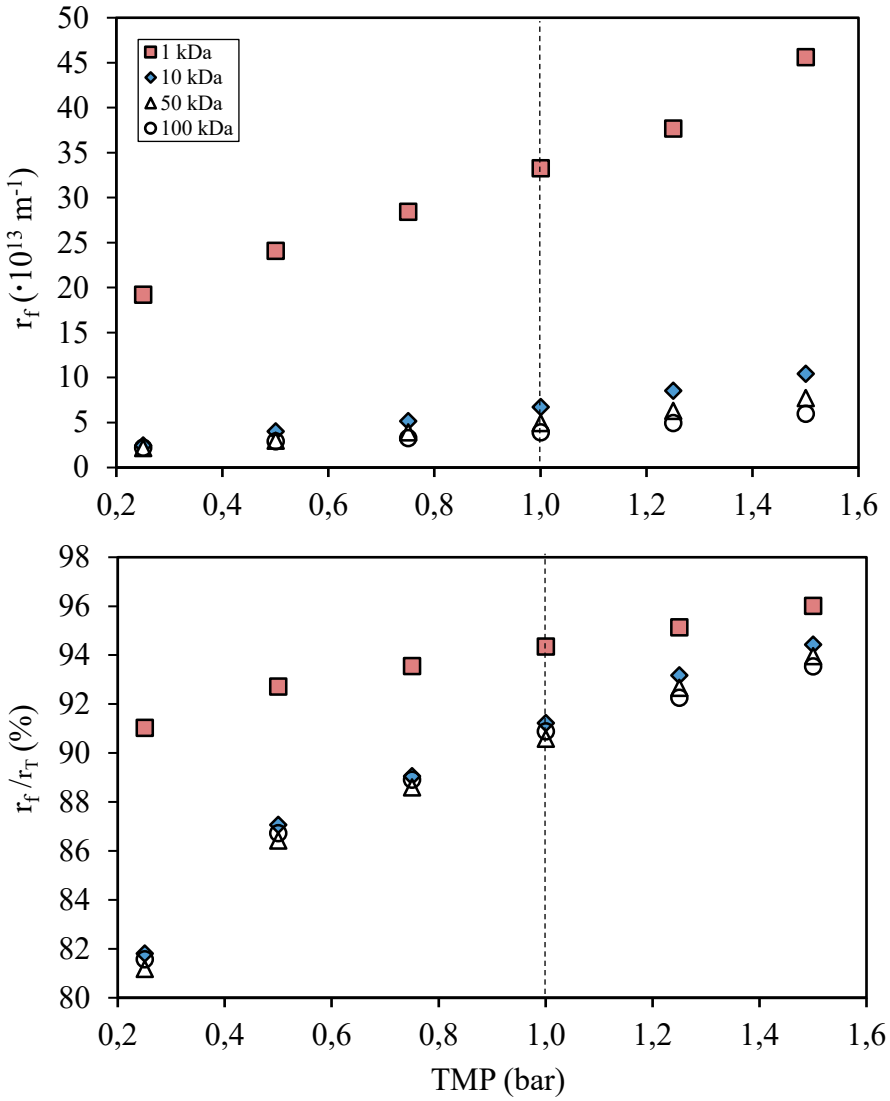

Figure S2. Influence of the transmembrane pressure (TMP) on the fouling resistance (r_f) and fouling resistance contribution (r_f/r_T) for the OSH filtration experiments shown in Fig. S1.

Table S1. Phenolic compound profile of the onion skin hydrolysate used as feed solution in this work.

PHENOLIC COMPOUNDS	C (10^{-3} g/L)	PROFILE (wt.%)
Protocatechuic acid	73.2±0.6	25.7
p-cumaric acid	4.3±0.1	1.5
p-hydroxybenzoic acid	161.2±0.5	57.5
Quercetin 3,4'-di-glucoside	7.4±0.3	2.6
Quercetin 3-glucoside	0.7±0.1	0.2
Quercetin 4'-glucoside	31.4±0.4	11.2
Quercetin	1.2±0.2	0.4
Myricetin	2.1±0.1	0.7
Kaempferol	0.26±0.02	0.1
Isorhamnetin	0.73±0.02	0.3

Table S2. Recovery factors (RF_i) in the final permeate (pA) and in the final retentates (r1 and rA) for *Cycle A* in Fig. 6B.

COMPOUNDS	RF_i (wt.%)		
	r1 (Retentate of the 100kDa membrane)	rA (Retentate of the 1kDa membrane)	pA (Permeate of the 1kDa membrane)
Free galacturonic acid	N.D.	2.7±0.6	97.3±0.5
Galactose	N.D.	2.8±0.5	97.3±0.5
Glucose	N.D.	2.6±0.4	97.4±0.5
xylose	N.D.	2.8±0.5	97.3±0.7
arabinose	N.D.	2.5±0.5	97.5±0.4
Formic acid	0.3±0.2	2.6±0.6	97.1±0.8
Acetic acid	N.D.	2.6±0.5	97.4±0.5
Furfural	0.08±0.06	2.3±0.5	97.2±0.9
HMF	N.D.	2.3±0.5	97.7±0.7
Protocatechuic acid	N.D.	0.8±0.5	99.2±0.5
p-cumaric acid	N.D.	0.5±0.4	99.5±0.5
p-hydroxybenzoic acid	N.D.	0.8±0.6	99.2±0.2
Quercetin 3,4'-di-glucoside	N.D.	0.7±0.5	99.3±0.5
Quercetin 3-glucoside	N.D.	N.D.	99.9±0.1
Quercetin 4'-glucoside	N.D.	N.D.	100±0.1
Quercetin	N.D.	0.8±0.5	99.2±0.2
Myricetin	N.D.	N.D.	100±0.1
Kaempferol	N.D.	N.D.	100±0.1
Isorhamnetin	N.D.	N.D.	100±0.1

N.D.: not detected. RF_i (wt.%): recovery factors calculated as the percentage variation of the solute content in the retentate or permeate relative to the initial solute content in the OSH.

Table S3. Phenolic compounds in the final permeate (pB) and final retentates (r1, rB1 and rB2) for *Cycle B* in Fig. 6B.

PHENOLIC COMPOUNDS	RF_i (wt.%)			
	r1 (Retentate of the 100kDa membrane)	rB1 (Retentate of the 10 kDa membrane)	rB2 (Retentate of the 1 kDa membrane)	pB (Permeate)
Protocatechuic acid	N.D.	0.5±0.5	8.3±0.7	91.2±0.5
p-cumaric acid	N.D.	N.D.	5.3±0.5	94.7±0.8
p-hydroxybenzoic acid	N.D.	N.D.	11.1±0.6	88.9±0.5
Quercetin 3,4'-di-glucoside	N.D.	N.D.	8.2±0.5	91.8±0.9
Quercetin 3-glucoside	N.D.	N.D.	N.D.	100±0.1
Quercetin 4'-glucoside	N.D.	N.D.	1.5±0.5	98.5±0.5
Quercetin	N.D.	8.0±0.8	34.8±0.8	57.2±0.7
Myricetin	N.D.	N.D.	N.D.	100±0.1
Kaempferol	N.D.	N.D.	N.D.	99.9±0.1
Isorhamnetin	N.D.	N.D.	N.D.	100±0.1

N.D.: not detected. RF_i (wt.%): recovery factor calculated as the percentage variation of the solute content in the retentate or permeate relative to the initial solute content in the OSH.