

SUPPLEMENTARY MATERIALS

Peach Pomace Valorization through Pectin Extraction and Hydrogel Development for Complex Ionic Environments

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Table S1. Extraction yield, degree of esterification (*DE*), and viscosity-average molecular weight (*M_w*) of pectins extracted from peach pomace under different pH conditions and of commercial apple pectin used as the reference material.

Source	pH	Yield (wt%)	Degree of esterification, DE (%)	Molecular weight, <i>M_w</i> (Da)
Extracted from peach pomace	2.4	5.7 ± 0.6	52.6	4.92E+05
	3.5	3.8 ± 0.5	53.3	2.37E+05
	7	4.3 ± 0.7	52.6	3.76E+05
	10	9.9 ± 0.1	51.8	4.62E+05
	12	19.6 ± 0.2	19.2	1.28E+05
Commercial apple pectin	-	-	57.9	6.46E+05

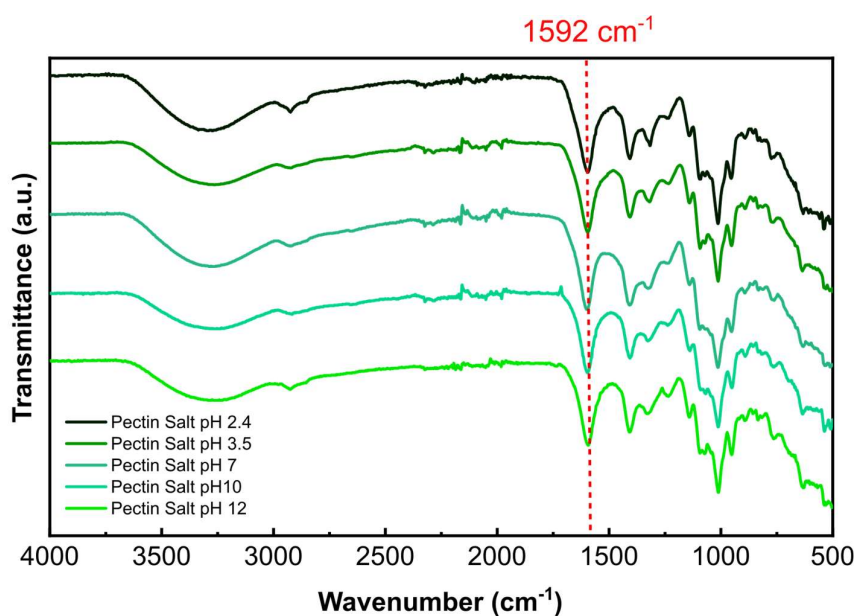


Fig.S1. FTIR spectra of pectins extracted at different pH after the salification process.

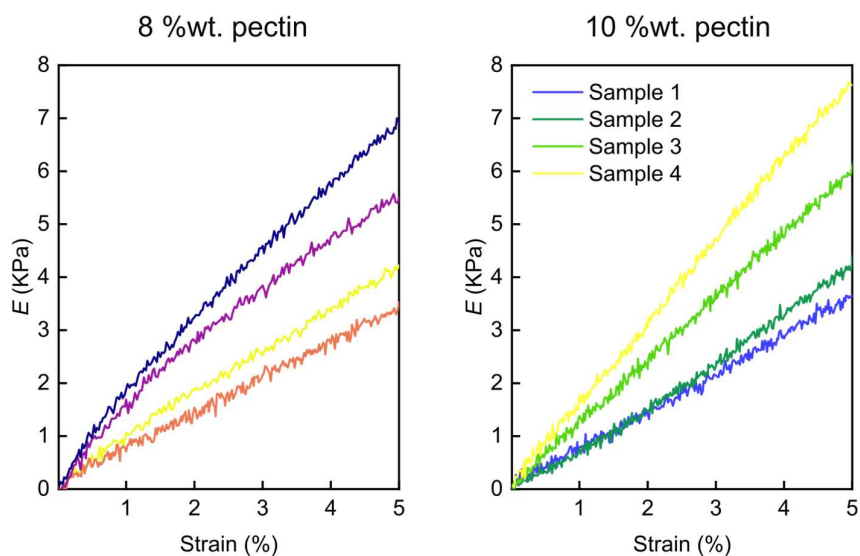


Fig. S2. Stress and strain curves obtained from compression test of the hydrogels produced with 8 %wt. (left) and 10 %wt. (right) of pectin sodium salt.

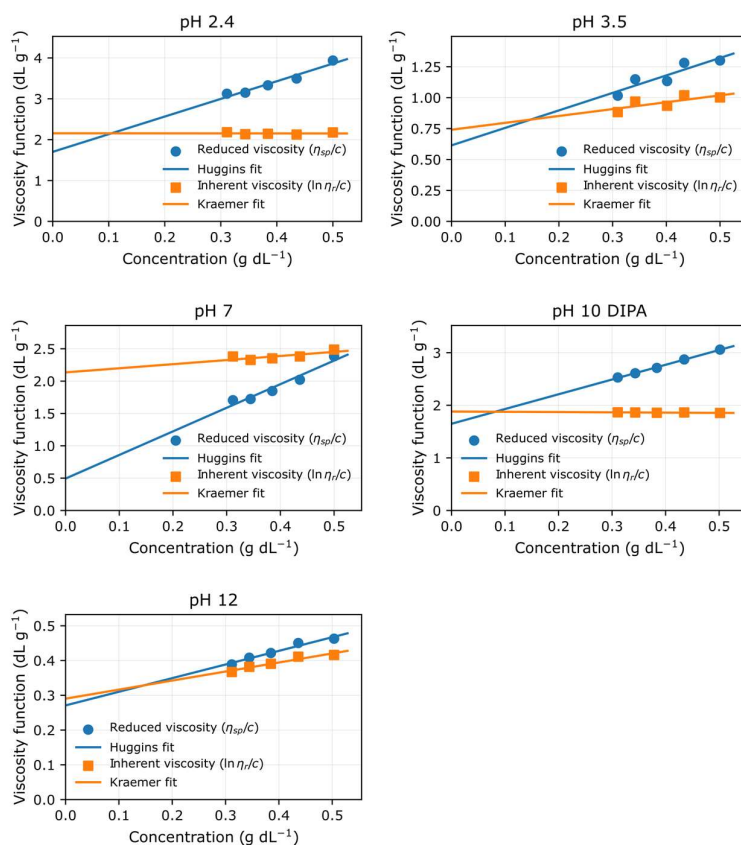


Fig. S3. Huggins and Kraemer plots used for the determination of the intrinsic viscosity and viscosity-average molecular weight of pectins extracted under different pH conditions.

Table S2. Water retention (*WR*), gel content (*GC*), compression modulus, and compression stress at 5% strain of hydrogels prepared with different sodium pectinate concentrations. Values are reported as mean value $\pm$ standard deviation.

Sodium pectinate content (wt%)	Water retention (%)	Gel content (%)	Compression modulus at 5% strain (kPa)	Compression stress at 5% strain (kPa)
8	1393 $\pm$ 73	91.7 $\pm$ 0.1	95.8 $\pm$ 24.2	5.04 $\pm$ 1.49
10	1164 $\pm$ 40	92.3 $\pm$ 0.3	102.6 $\pm$ 21.5	5.41 $\pm$ 1.79