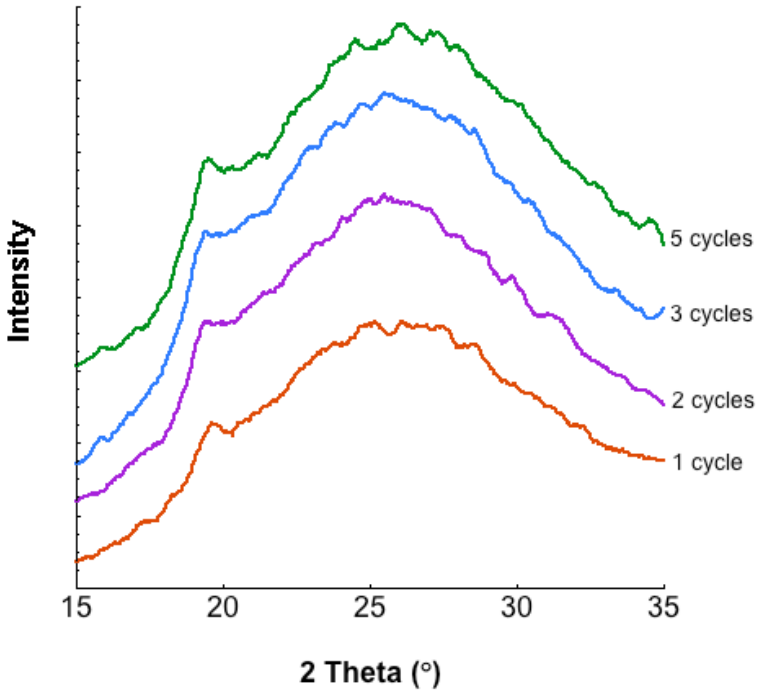

Figure 1S. Typical wide-angle X-ray diffraction spectra for 30 wt% freeze-thawed PVA hydrogels with increasing freeze-thaw cycles.

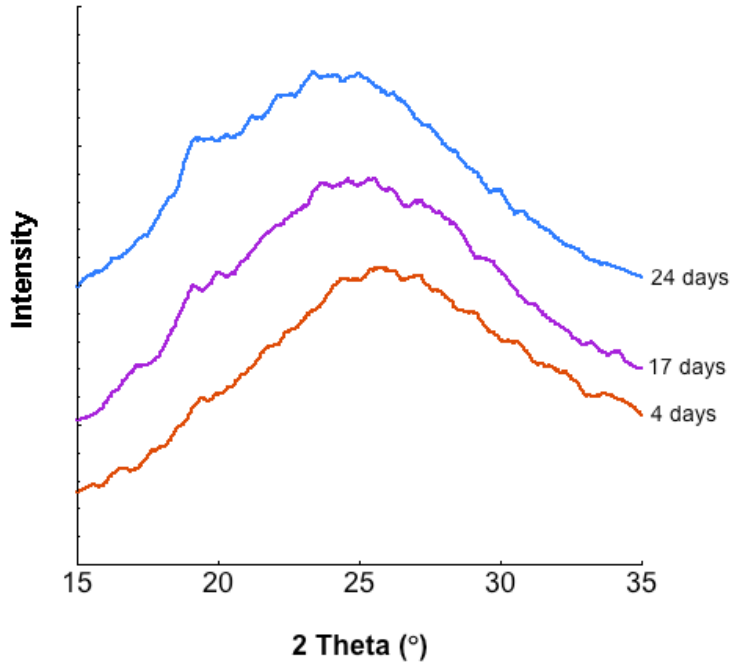

Figure 2S. Typical wide-angle X-ray diffraction spectra for 30 wt% aged PVA hydrogels with increasing aging time.

Table 1S. Average compressive modulus, tensile modulus, crystallinity, and porosity for freeze-thawed and aged PVA hydrogels as a function of polymer concentration.

	Compressive Modulus (MPa)[a]	Crystallinity (%)[b]	Porosity (%)[a]
Freeze-Thawed Hydrogels			
10% PVA	0.070 ± 0.008	0.36 ± 0.12	45.1 ± 5.4
20% PVA	0.241 ± 0.010	1.48 ± 0.23	44.8 ± 3.3
30% PVA	0.678 ± 0.030	3.59 ± 0.36	36.4 ± 5.3
35% PVA	0.801 ± 0.040	5.20 ± 0.43	36.2 ± 3.6
Aged Hydrogels			
30% PVA	0.343 ± 0.097	2.35 ± 0.38	1.3 ± 0.7
35% PVA	0.408 ± 0.072	3.80 ± 1.80	2.2 ± 1.3

[a] Values are after 6 cycles for freeze-thawed hydrogels and 31 days for aged gels
[b] Values are after 3 cycles for freeze-thawed hydrogels and 31 days for aged gels