

Supporting Information

Comparative Study on the Photodegradation Behavior of Virgin and Recycled Polycarbonate

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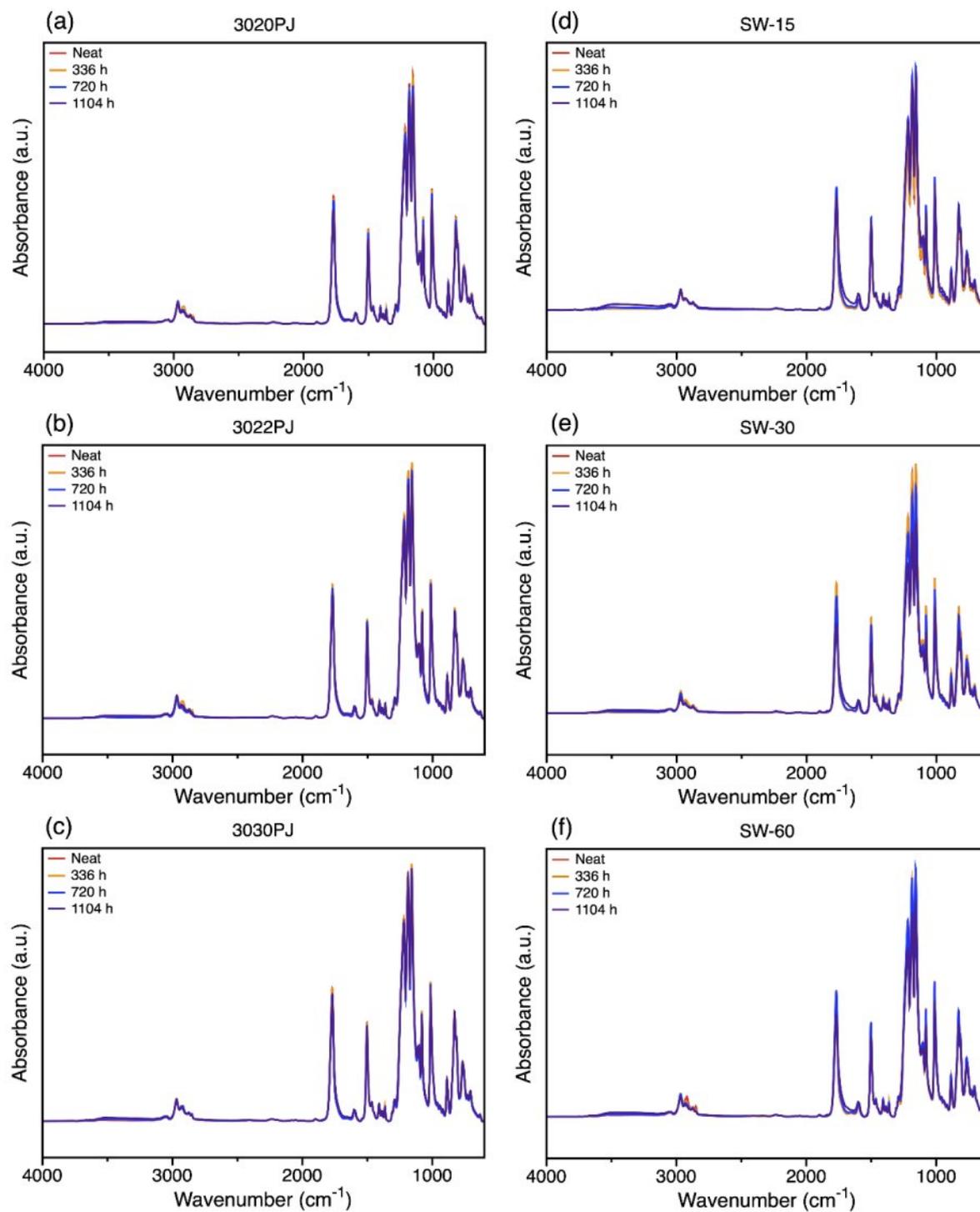


Figure S1. FT-IR spectra of PC samples measured from 600 to 4000 cm⁻¹ at different aging times. (a) 3020PJ, (b) 3022PJ, (c) 3030PJ, (d) SW-15, (e) SW-30, (f) SW-60

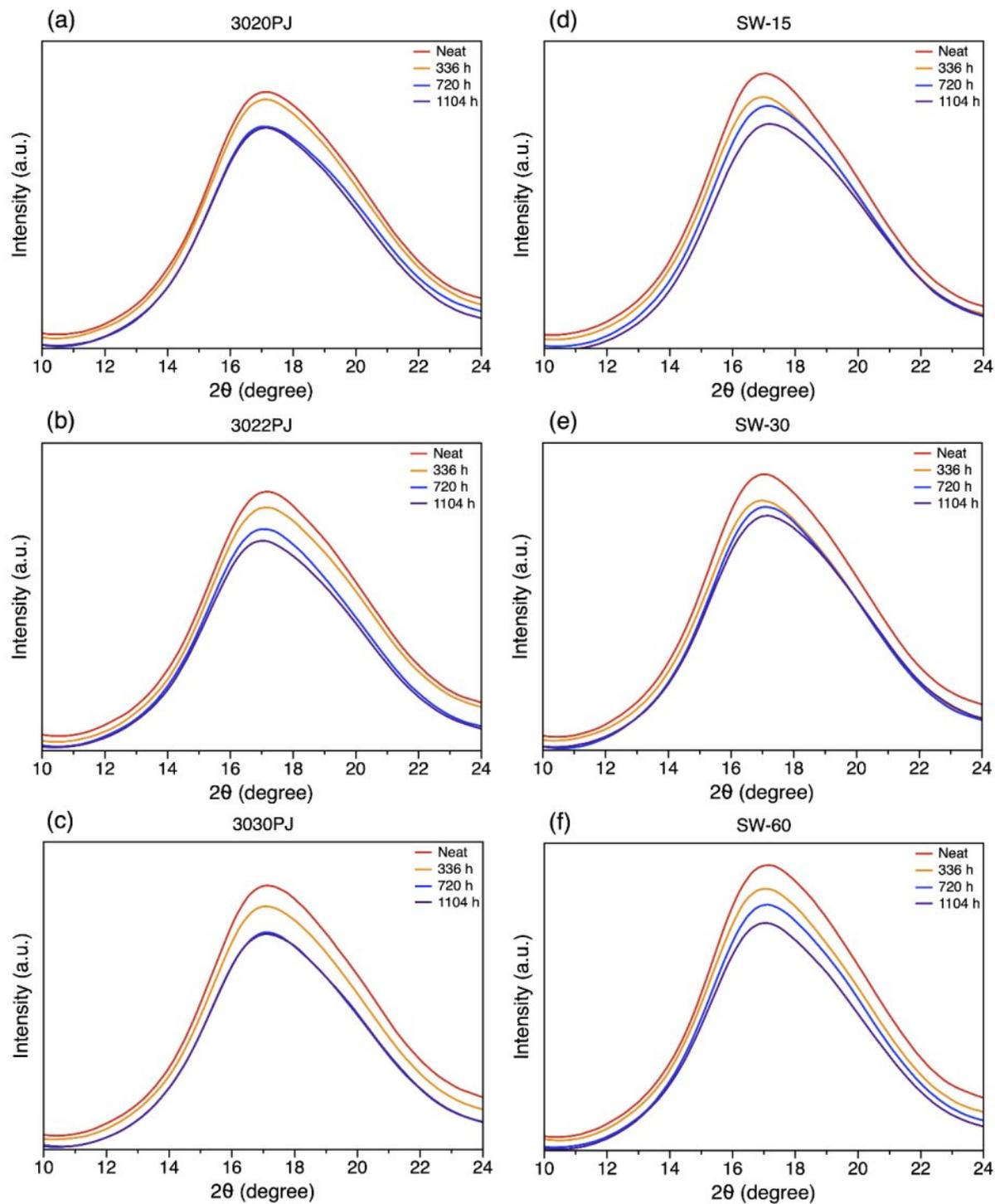


Figure S2. X-ray diffraction patterns of PC samples during accelerated weathering. (a) 3020PJ, (b) 3022PJ, (c) 3030PJ, (d) SW-15, (e) SW-30, (f) SW-60

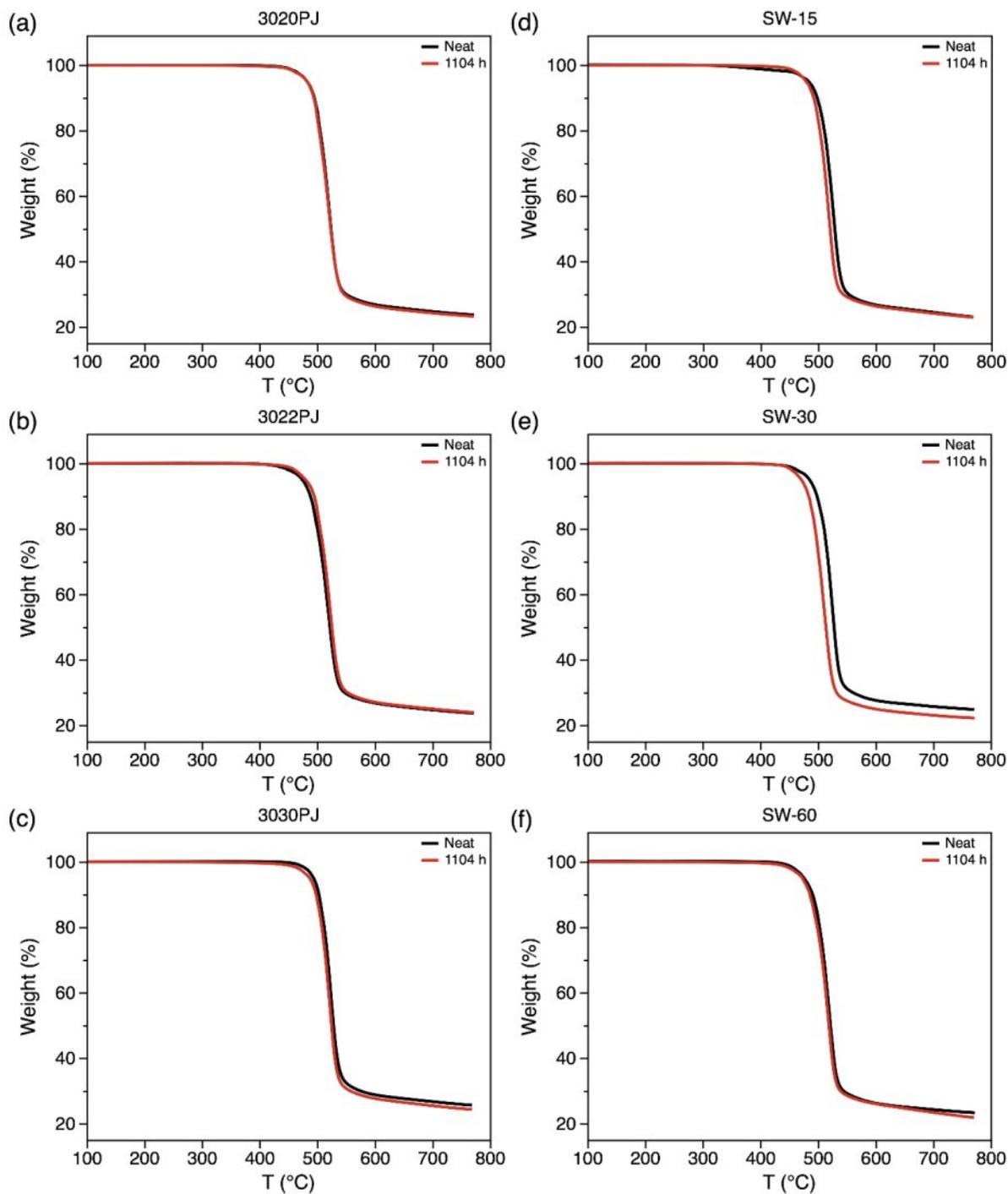


Figure S3. Thermogravimetric analysis (TGA) curves of PC samples at 0 and 1104 h. (a) 3020PJ, (b) 3022PJ, (c) 3030PJ, (d) SW-15, (e) SW-30, (f) SW-60

Table S1. Stress at break, strain at break, and Young's modulus of **PC** samples at each aging time point.

3020PJ	Stress (MPa)	Strain	Young's modulus (MPa)
Neat	69.22	0.73	95.24
336 h	64.83	0.60	108.46
720 h	59.66	0.022	1670.60
1104 h	51.26	0.029	1761.60

3022PJ	Stress (MPa)	Strain	Young's modulus (MPa)
Neat	66.43	0.73	90.96
336 h	65.07	0.34	193.43
720 h	65.42	0.133	505.84
1104 h	38.72	0.026	1485.13

3030PJ	Stress (MPa)	Strain	Young's modulus (MPa)
Neat	75.17	0.82	91.48
336 h	74.47	0.75	99.58
720 h	72.21	0.62	135.42
1104 h	66.40	0.12	609.3

SW-15	Stress (MPa)	Strain	Young's modulus (MPa)
Neat	63.72	0.7	91.00
336 h	61.27	0.62	99.0
720 h	65.59	0.15	453.83
1104 h	54.01	0.03	1810.56

SW-30	Stress (MPa)	Strain	Young's modulus (MPa)
Neat	59368	0.63	95.00
336 h	54.35	0.26	246.41
720 h	38.45	0.024	1562.2
1104 h	30.37	0.020	1505.23

SW-60	Stress (MPa)	Strain	Young's modulus (MPa)
Neat	64.80	0.57	113.19
336 h	49.09	0.04	1271.61
720 h	57.13	0.038	1553.96
1104 h	38.91	0.024	1618.81