Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supplementary information

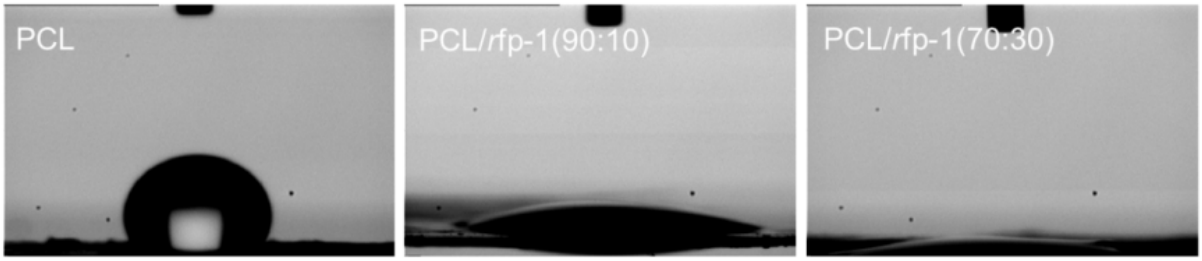

Fig. S1 Contact angle of PCL/*r*fp-1 composite nanofibers with various mixing ratios.

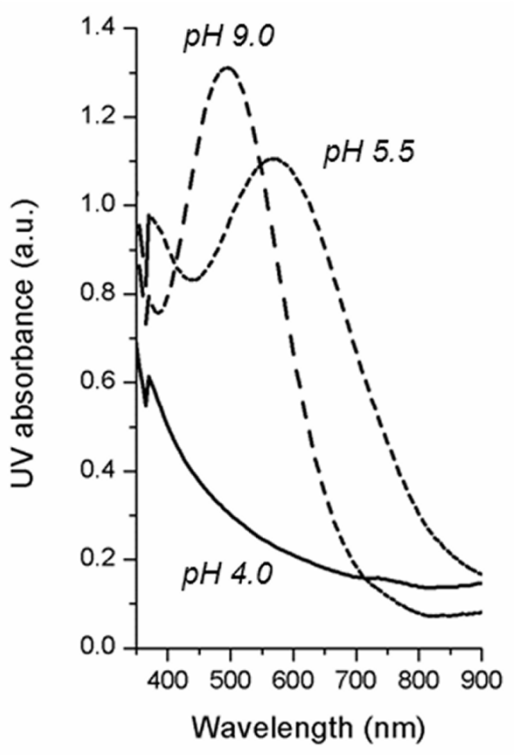

Fig. S2 Absorbance spectra of Fe(III)-DOPA coordination using Fe(III)-added *mr*fp-1 solution measured by UV-visible spectroscopy.

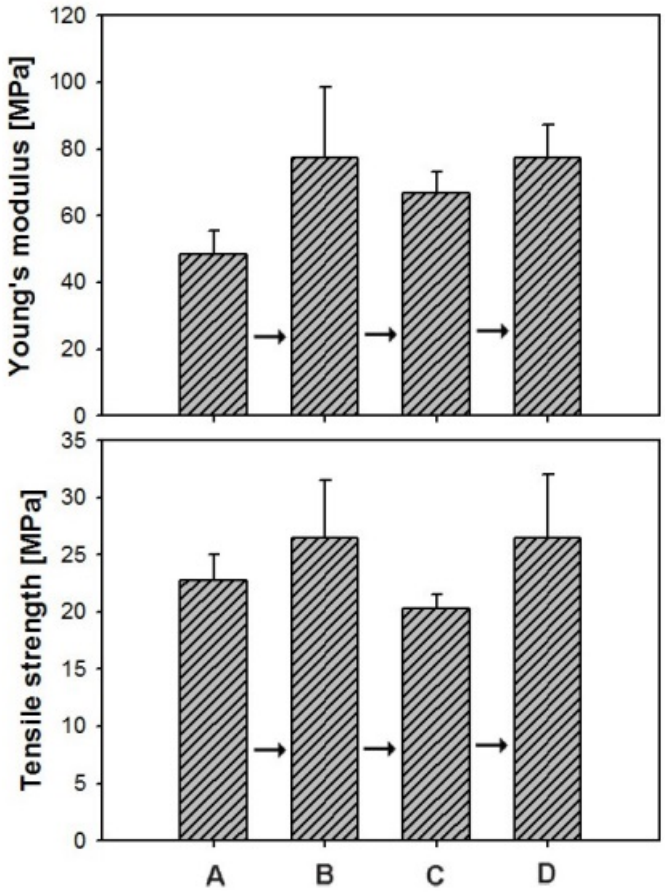

Fig. S3 pH dependent changes in Young's modulus (top) and tensile strength (bottom) of PCL/*mr*fp-1 (70:30) nanofibers with Fe(III). (A) Nanofibers immersed in 0.15 M sodium acetate buffer pH 5.5 for 1 h, (B) nanofibers immersed in 0.15 M Tris-Cl buffer pH 8.2 for 1 h, (C) nanofibers immersed in 0.15 M sodium acetate buffer pH 5.5 for 1 h after immersion in 0.15 M Tris-Cl buffer pH 8.2 for 1 h, and (D) nanofibers immersed in 0.15 M Tris-Cl buffer pH 8.2 for 1 h after sequential immersion in the pH 5.5-, the pH 8.2-, and the pH 5.5 buffer. Each value represents the mean of eight analyses and its standard deviation.

Table S1 pH dependent changes in tensile properties of PCL/*mr*fp-1 (70:30) nanofibers without Fe(III). Each value represents the mean of †eight or *three analyses and its standard deviation.

Nanofibers	Tensile strength [MPa]	Extension [mm/mm]	Young's modulus [MPa]
PCL/*mr*fp-1 (70:30), pH 5.5†	10.7 ± 7.2	0.5 ± 0.2	23.4 ± 1.3
PCL/*mr*fp-1 (70:30), pH 9.7*	17.0 ± 4.4	0.4 ± 0.0	66.3 ± 33.8

Table S2. Identification of DOPA oxidation in PCL/MAP nanofibers through amino acid composition analysis.

	PCL/*mr*fp-1 nanofibers w/o Fe(III)	Non-treated PCL/*mr*fp-1 nanofibers w/ Fe(III)	EDTA-treated PCL/*mr*fp-1 nanofibers w/ Fe(III)
DOPA amount (%)	8.2 ± 1.1	8.5 ± 0.5	8.4 ± 0.4
Tyrosine amount (%)	15.3 ± 1.8	17.2 ± 0.5	16.2 ± 0.4