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

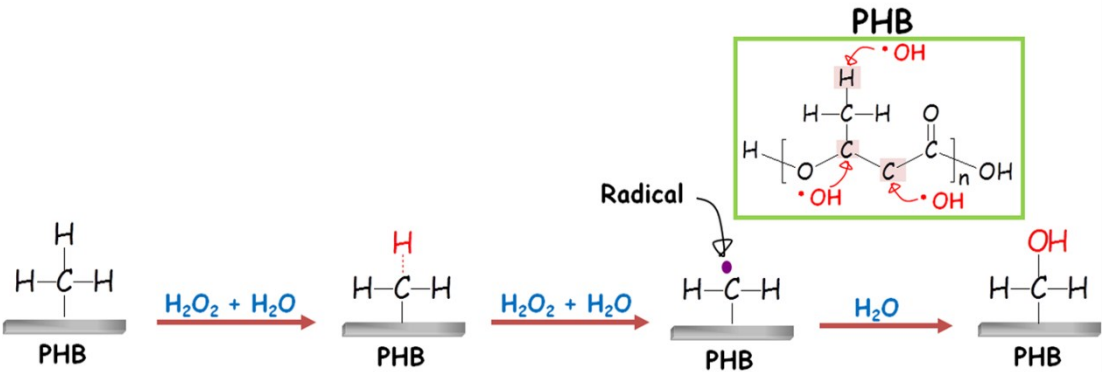

Fig. S1 Schematic of the surface oxidization on the electrospun PHB membranes.

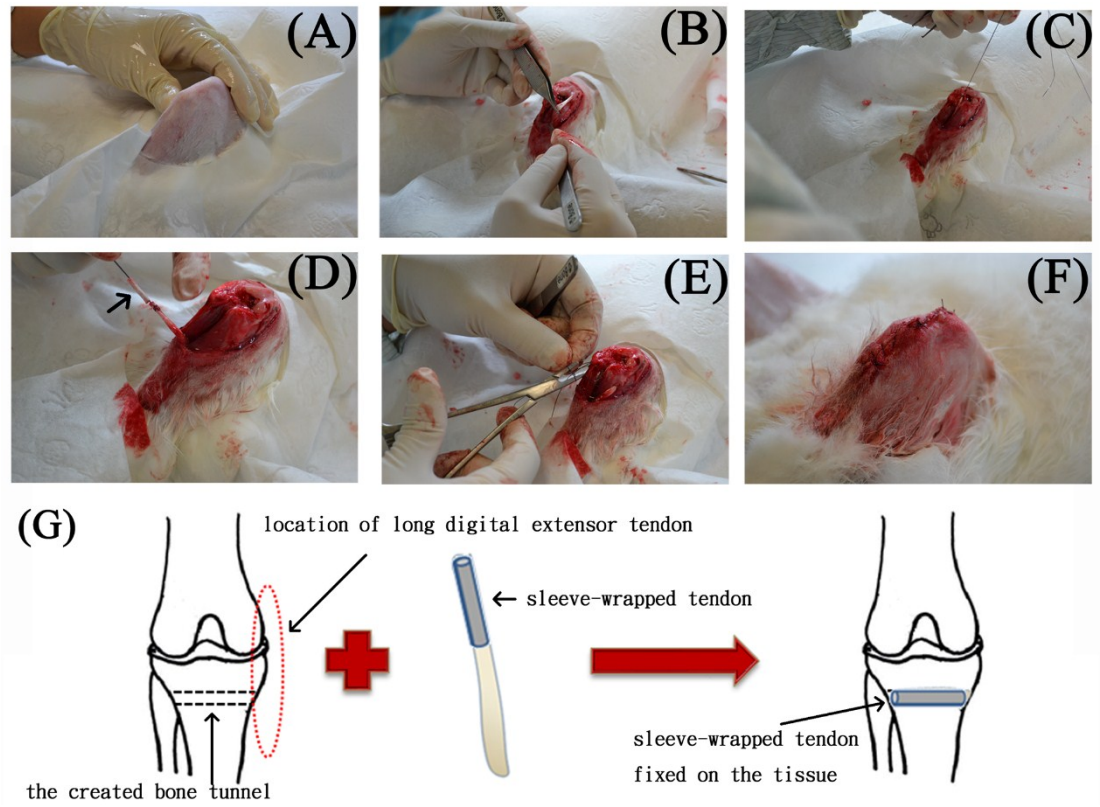

Fig. S2 An extra-article model for evaluating the fixation in tendon to bone junctionin ACL reconstruction. (A) The surgical site was exposed after anesthesia and shaving. (B) The knee joint was accessed via a lateral parapatellar incision and the long digital extensor tendon was identified. (C) The free tendon was sutured using Vicryl suture and a bone tunnel was created in tibia site. (D) A 2.4 mm diameter electrospun modified PHB sleeve was wrapped around the tendon as the implant. The arrow indicates the sleeve. (E) The free end of the tendon was pulled manually through the tunnel and fixed at the medial aspect of the proximal tibia using nylon suture. (F) The joint capsule, fascia, and subcutaneous tissues were closed. (G) A schematic drawing of tendon to bone junction in ACL reconstruction.

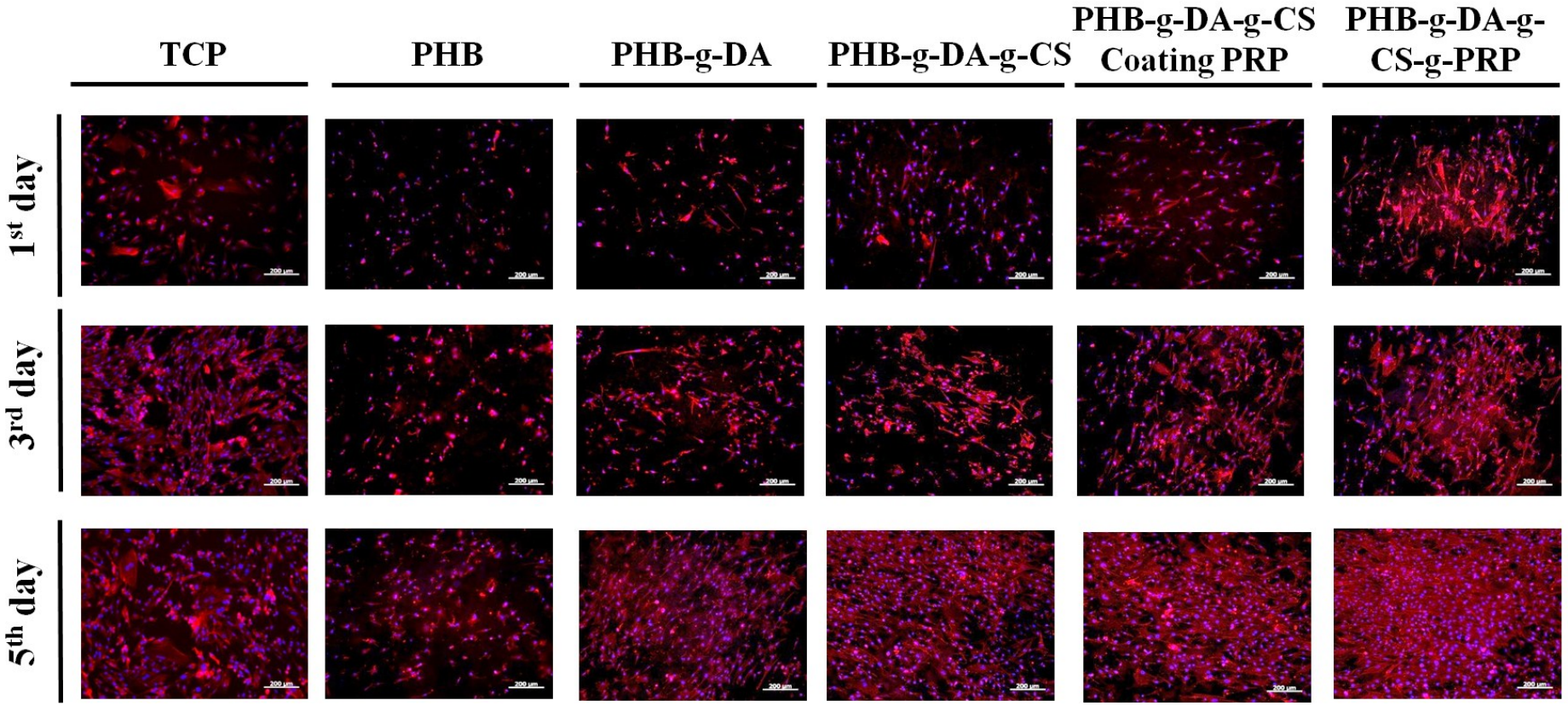

Fig. S3 Fluorescent microscopic images of rabbit tenocytes cultured on monolayer (TCPs) and electrospun fibrous membranes (virgin PHB, PHB-g-DA, PHB-g-DA-g-CS, PRP coated PHB-g-DA-g-CS and PHB-g-DA-g-CS-g-PRP) after 1, 3 and 5 days of incubation, respectively under 100x magnification (Scale bar = 200 μm). Cellular nuclei and skeletons are fluorescently stained with DAPI (blue) and rhodamine phalloidin (red), respectively.

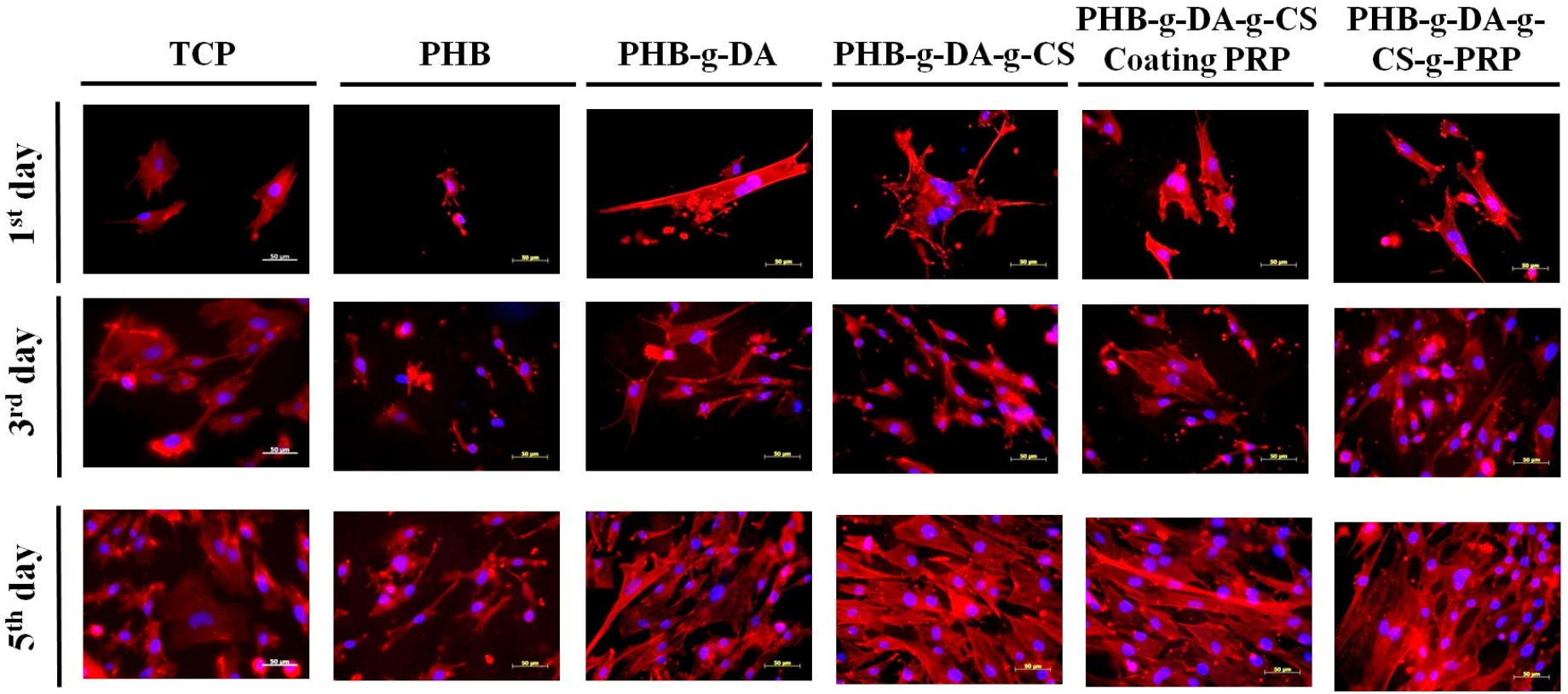

Fig. S4 Fluorescent microscopic images of rabbit tenocytes cultured on electrospun fibrous membranes (virgin PHB, PHB-g-DA, PHB-g-DA-g-CS, PRP coated PHB-g-DA-g-CS and PHB-g-DA-g-CS-g-PRP) after 1, 3 and 5 days of incubation, respectively under 400x magnification (Scale bar = 50 μm). Cellular nuclei and skeletons are fluorescently stained with DAPI (blue) and rhodamine phalloidin (red), respectively.

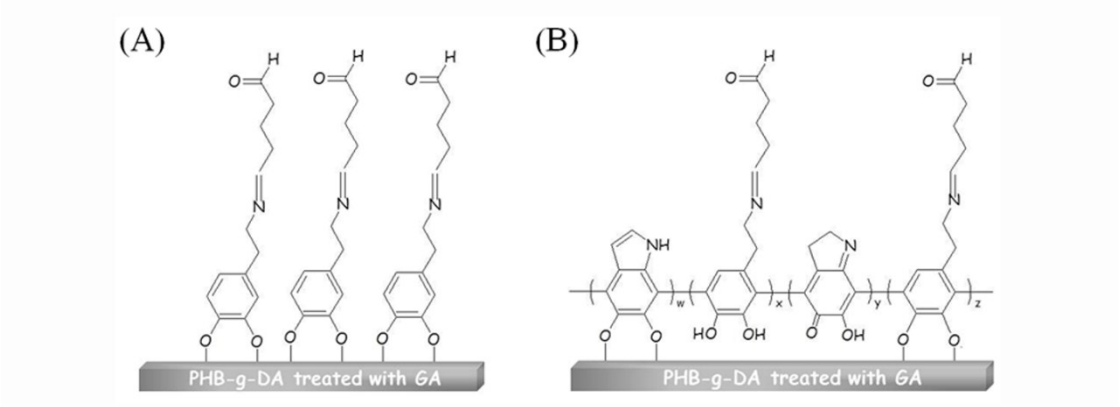

Fig. S5 Plausible illustration of chain conformation of prepared the PHB-g-DA treated with GA from (a) an ideal dopamine layer and (b) polydopamine assembly layers. The polydopamine layer contained possible repeating unit of quinone and oxidized catechol groups, which were randomly distributed along the interfacial layer.[43]

Table S1 The concentrations of PDGF-AB and TGF-β1 in various environments.

Growth factors	Non-activated PRP (ng/ml)	Activated PRP (ng/ml)	PRP coated PHB-g-DA-g-CS (ng/ml)	PHB-g-DA-g-CS-g-PRP (ng/ml)
PDGF-AB	NA	11.21	0.26	0.98
TGF-β1	NA	7.15	0.16	0.62

Table S2 Sequences of primers used in real-time PCR

Gene symbol	Primer sequences (3'→5')	Size (bps)
GAPDH	AAGGGCATCCTGGGCTACAC GGTCCAGGGGCTCTTACTCC	230
Type I Collagen	AGAGGAGGGCCAAGAAGAAG ACGTCATCGCACAACACATT	174

The enlarged and more clear Fig. 5 for the manuscript is shown below.

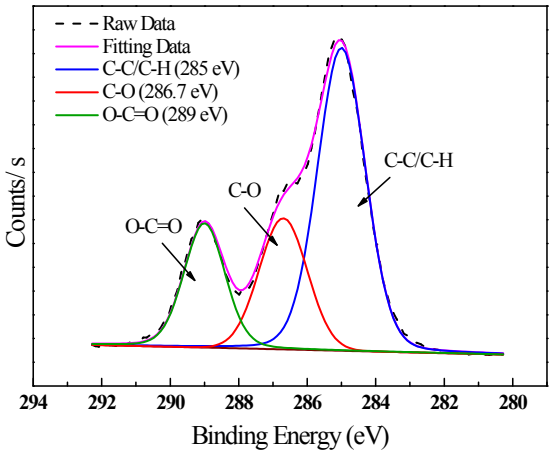

Fig. 5A

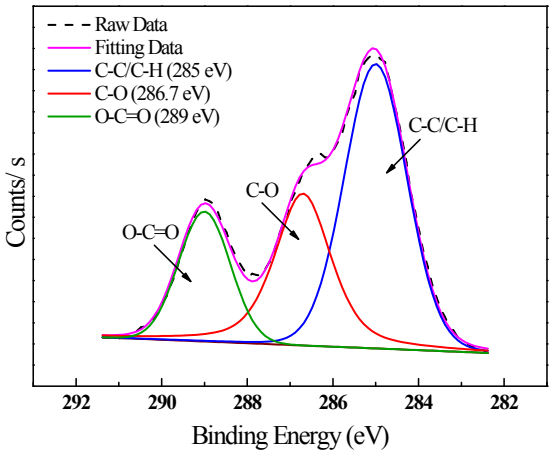

Fig. 5B

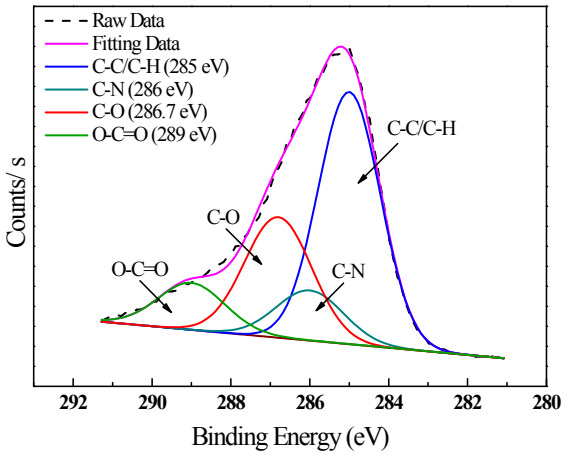

Fig. 5C

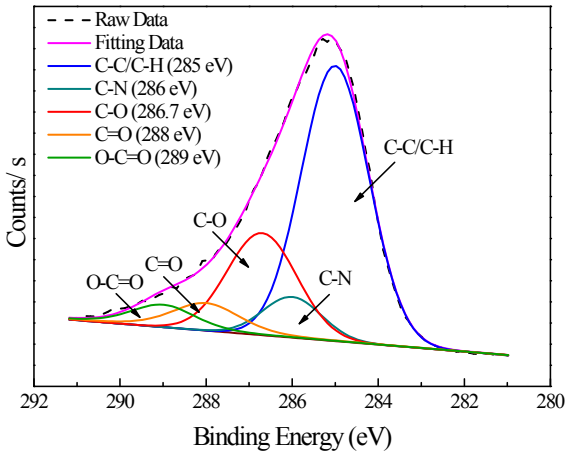

Fig. 5D

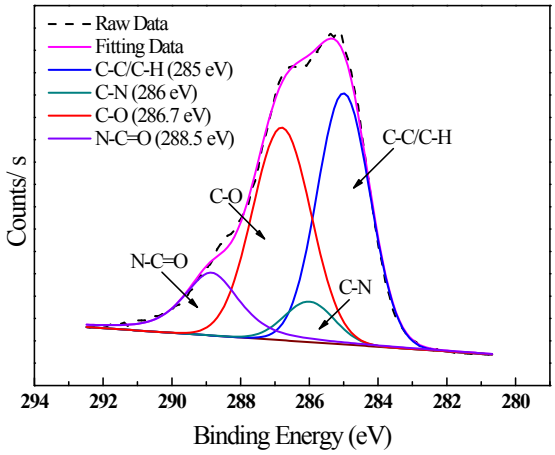

Fig. 5E

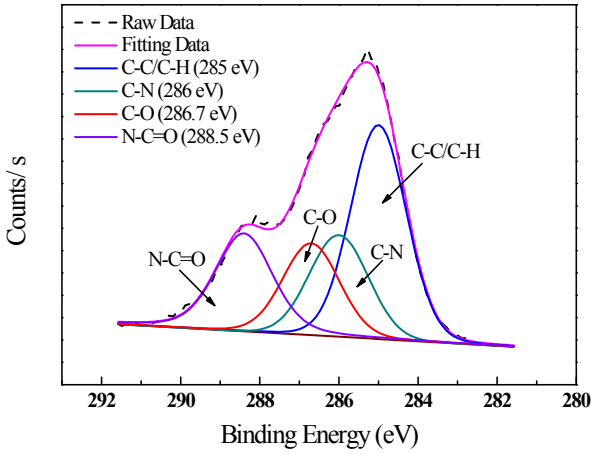

Fig. 5F

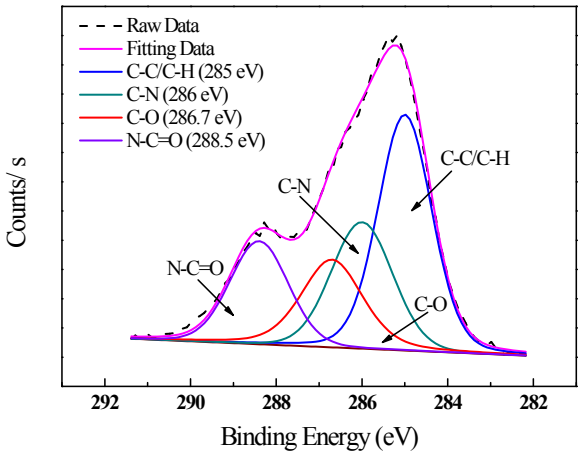

Fig. 5G

Fig. 5 High resolution C1s spectra of PHB electrospun membranes: (A) PHB, (B) H_2O_2-treated PHB, (C) PHB-g-DA, (D) PHB-g-DA treated with glutaraldehyde (GA), (E) PHB-g-DA-g-CS, (F) PRP coated PHB-g-DA-g-CS, and (G) PHB-g-DA-g-CS-g-PRP.