Supporting Information for

Poly(dopamine)-inspired surface functionalization of polypropylene tissue mesh for prevention of intra-peritoneal adhesion formation

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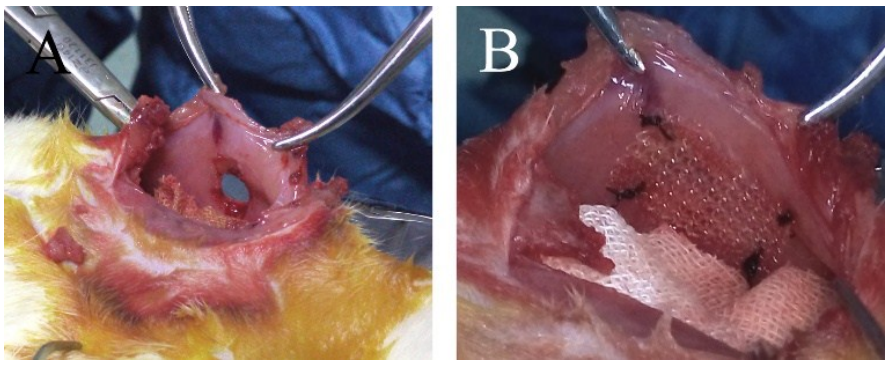

Figure S1. Abdominal wall defect and repaired with the O-PP/PDA/CS mesh. (A) Abdominal wall defect (1.0 cm × 1.0 cm) were created. (B) The wall defect was repaired with the O-PP/PDA/CS mesh.

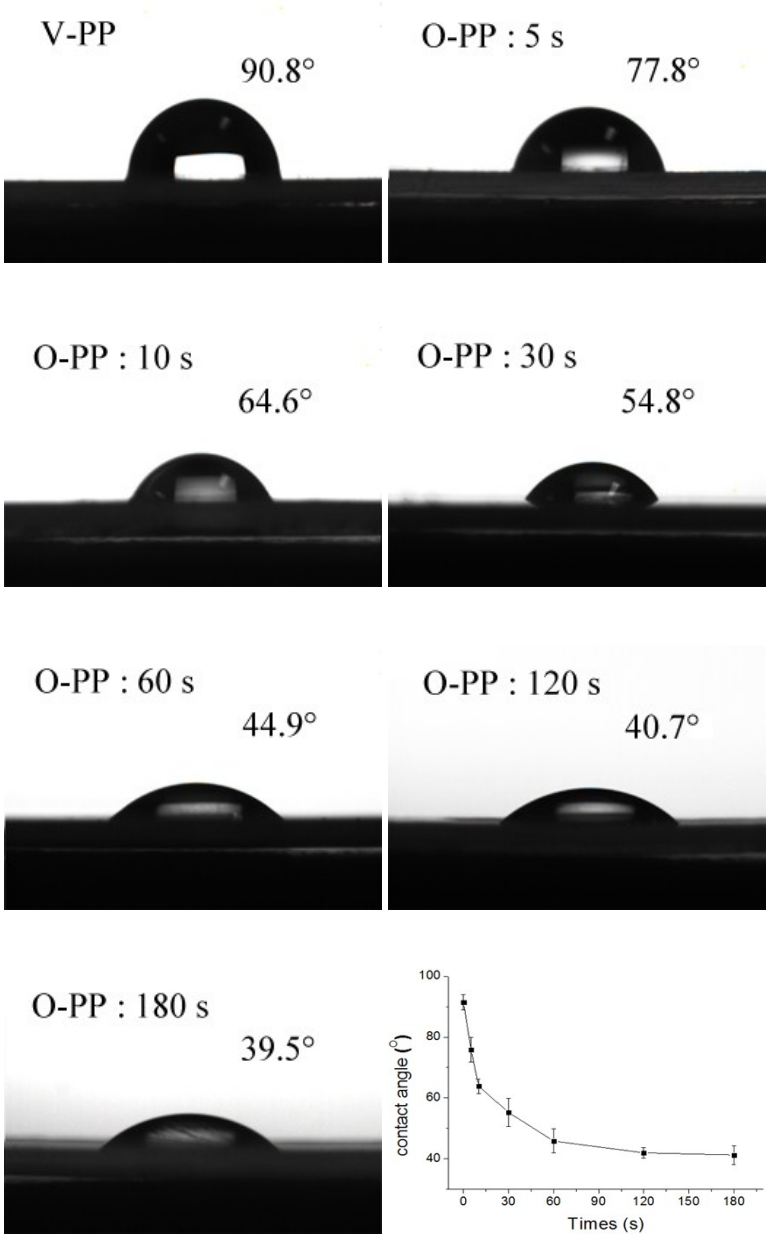

Figure S2. The surface plasma treatment time increased from 0 s to 180 s, the water contact angle decreased with treatment time increasing (Data were mean ± SD, n = 3).

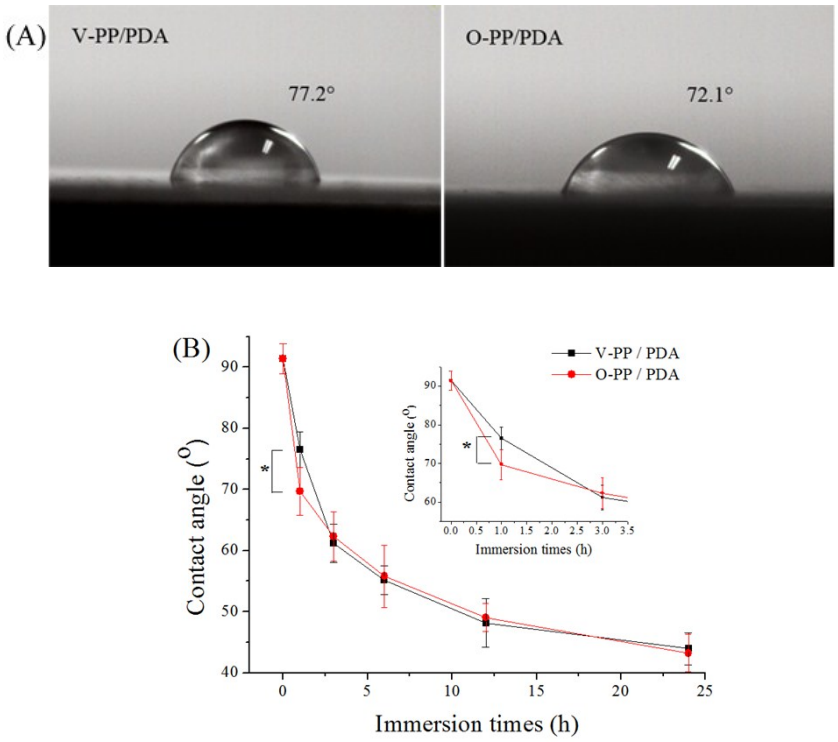

Figure S3. The initial CA of original PP mesh as well as modified PP mesh and its change. (A) Effect of immersion time in dopamine solution on contact angle change of V-PP and O-PP meshes after been immersed for 1 hour in dopamine solution. (B) Comparison of static contact angle of V-PP and O-PP meshes after been immersed for 24 hours in dopamine solution. (Data were mean ± SD (n = 3) and "*" represent $P < 0.05$)

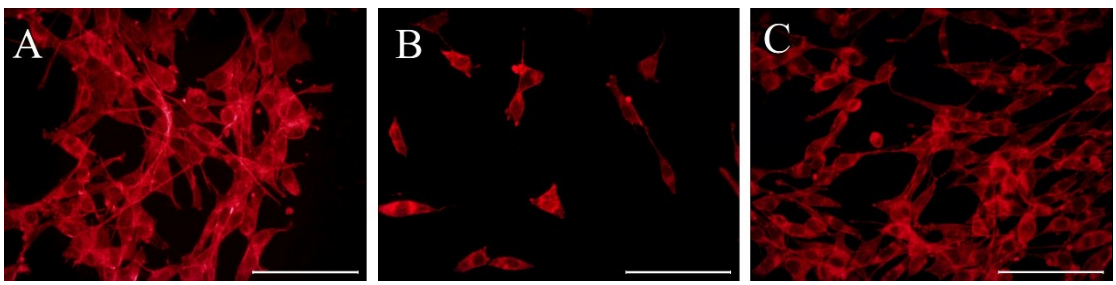

Figure S4. The NIH-3T3 cytoskeleton morphology on different substrates. (A). The fibroblasts were seeded into 24-well plate (control) (B).The fibroblasts were seeded onto V-PP substrates,

there were still many cells attached and spread onto the substrate. (C). Poly (dopamine) ad-layer significantly promoted cell adhesion and proliferation on substrates. All samples were incubated for 48 hours and scale bars represent 100 μm.

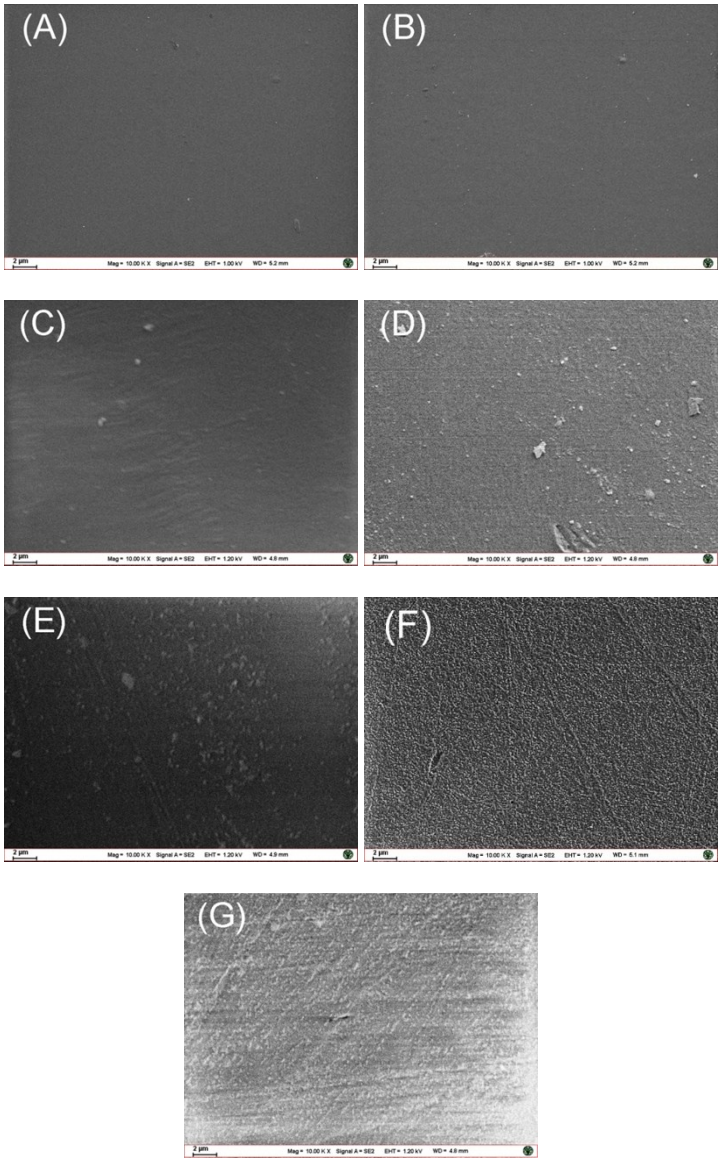

Figure S5. The SEM revealed the surface morphology of oxygen plasma treated PP with increasing plasma treatment time (PDC-M, intensity 200 w, oxygen flow = 300 mL/min). (A) V-PP; (B) 5 s; (C) 10 s; (D) 30 s; (E) 60 s; (F) 120 s; (G) 180 s