Supporting Information

for

Augmented Peripheral Nerve Regeneration Through Elastic Nerve Guidance Conduits Prepared using Porous PLCL Membrane with 3D Printed Collagen Hydrogel

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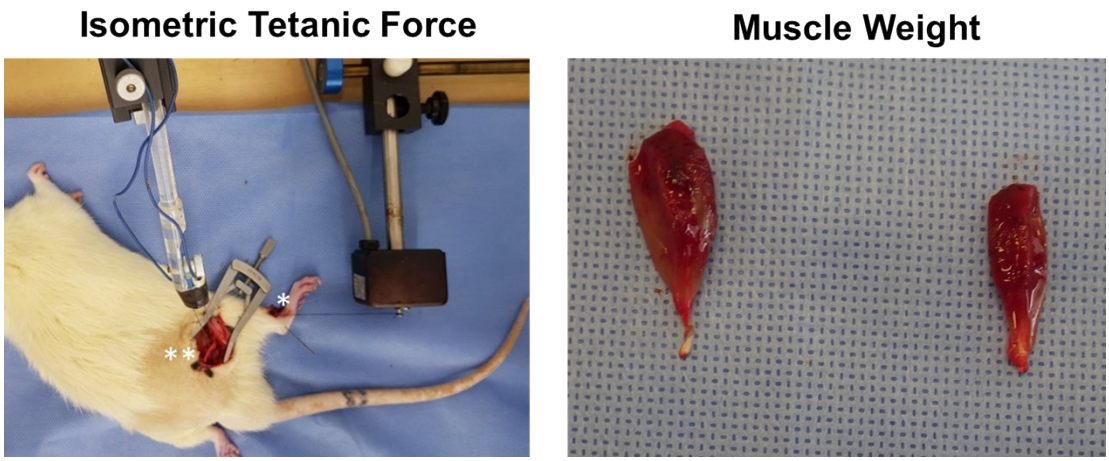

Figure S1. The left photograph shows the procedure for the measurement of isometric tetanic force. The right photograph shows the dissected muscle from tissues; the contralateral side and the operated side, respectively.

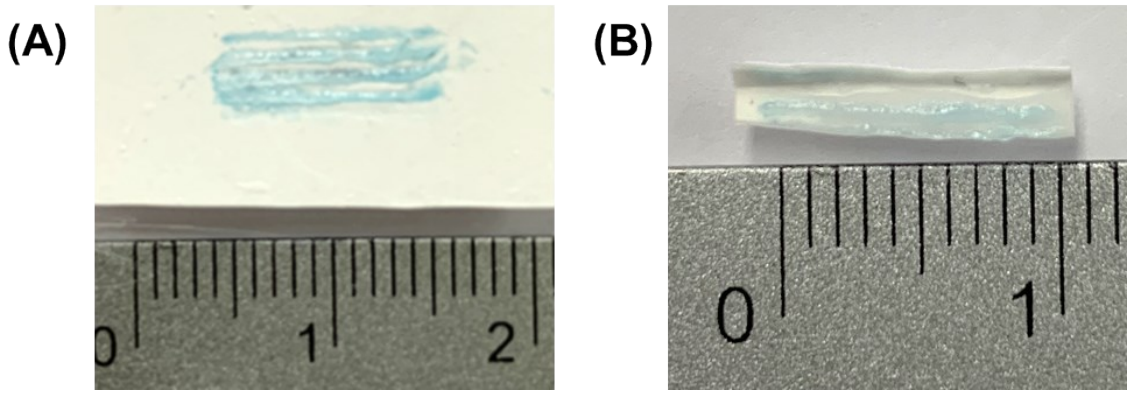

Figure S2. (A) Hydrated 3D printed collagen hydrogel on the PLCL membrane. A small amount of Alcian blue dye to improve visibility. (B) Longitudinal cross-sectioned photograph of the fabricated NGCs, demonstrating the consistency of the hydrogel deposition along the length.

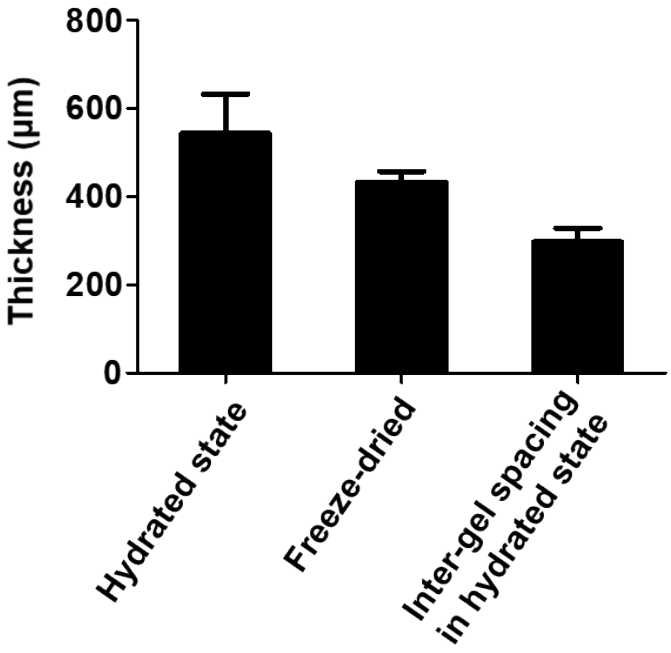

Figure S3. Characterization of the 3D printed collagen hydrogel. Thickness of 3D printed hydrogel line in hydrated and freeze-dried states, and inter-gel spacing of collagen hydrogel in hydrated state.

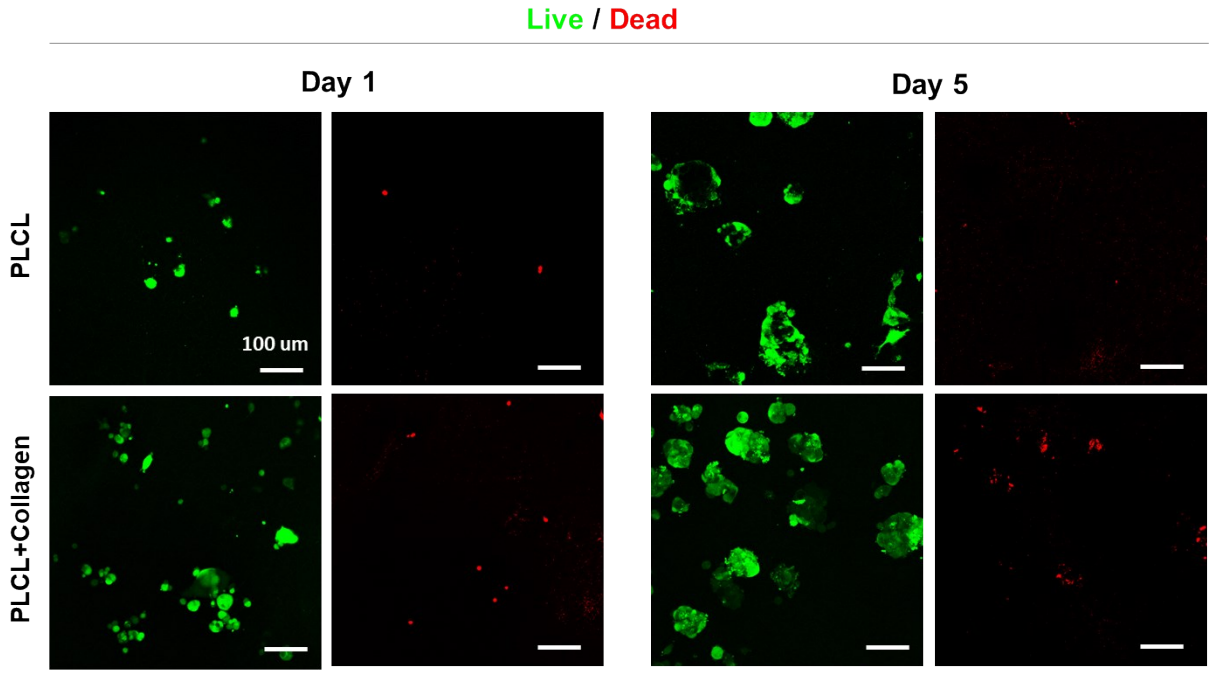

Figure S4. Biocompatibility and cytotoxicity of PLCL membranes and PLCL membranes with 3D printed collagen hydrogel. Fluorescent images of live & dead assay of PC12 cells cultured on PLCL membranes. Live cells are visualized as green and the dead cells as red.

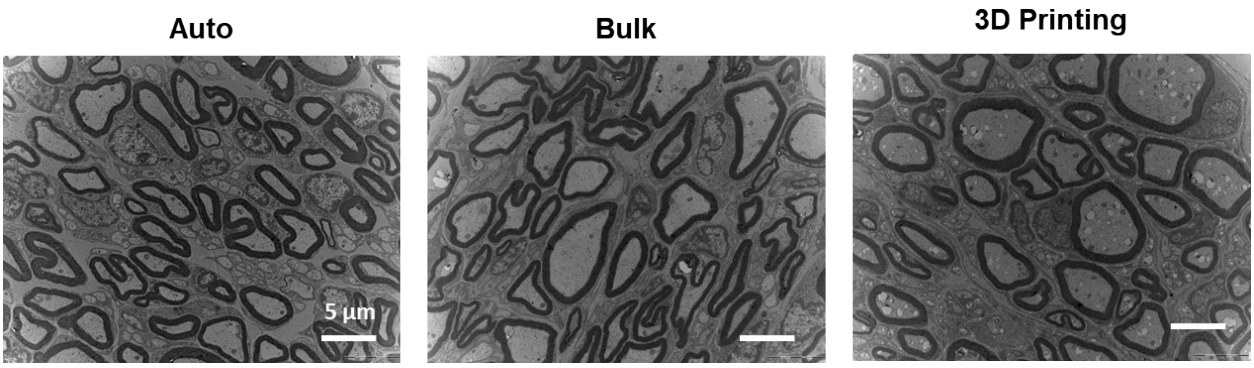

Figure S5. Transmission electron microscope (TEM) images of nerve tissues at 12 weeks after operation. The nerve tissue in all groups mainly consisted of myelinated nerve fibers with thick myelin sheaths and uniform thickness, which is consistent with the result of toluidine-blue staining measurements.