

3D-Printed Coaxial Hydrogel Patches with Mussel-Inspired Elements for Prolonged Release of Gemcitabine

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Supplementary Materials

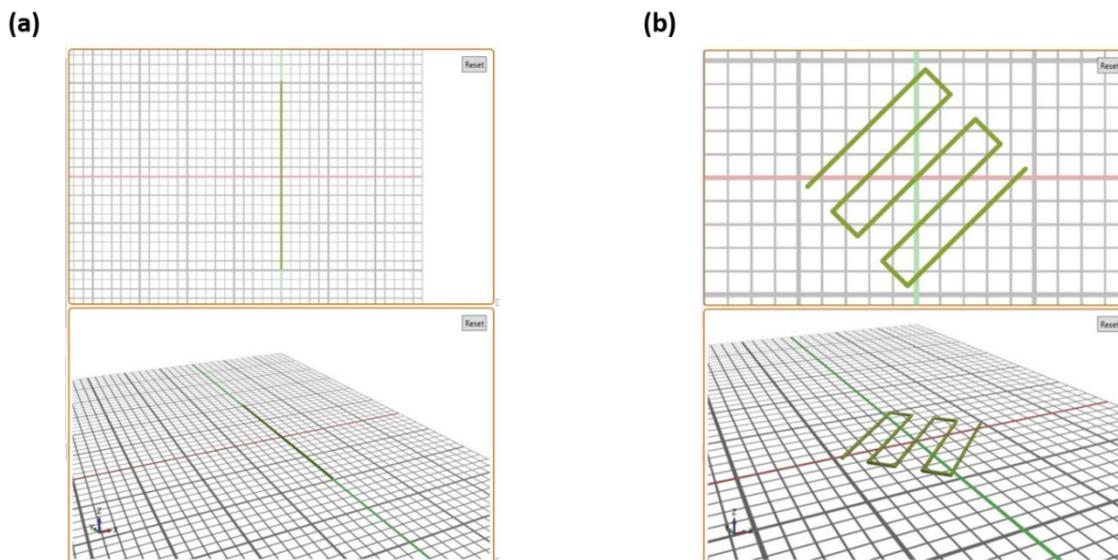


Figure 1. Design of 3D printed coaxial structures including (a) strands, (b) patches.

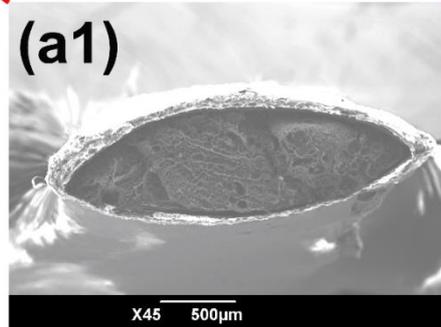
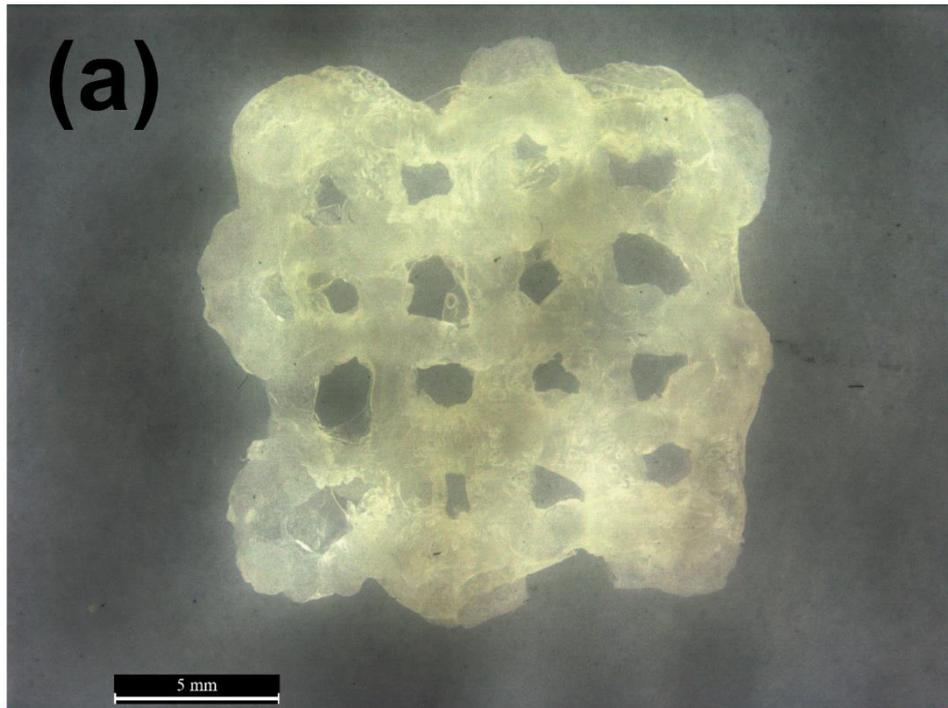


Figure S2. Light microscopy (a) and (a1) SEM images of PLA coated 3D printed coaxial patches containing CaCO_3 .

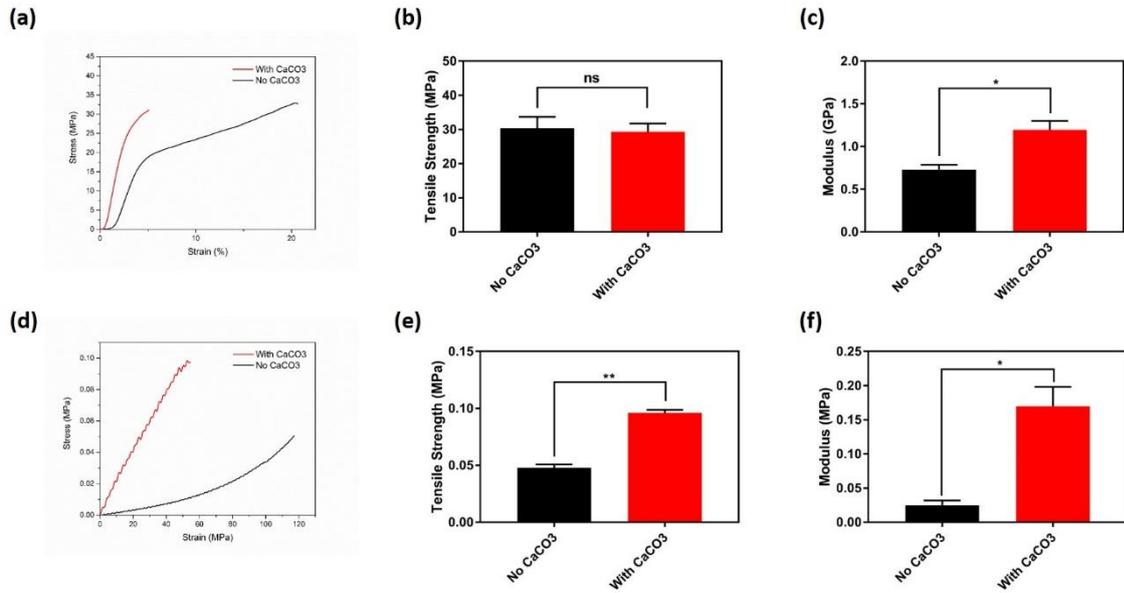


Figure S3. Mechanical properties of 3D printed coaxial strands following a static tensile test, (a-c) Stress-strain curve, tensile strength, and modulus of strands in dry state (n = 3, mean ± SD). (d-f) Stress-strain curve, tensile strength, and modulus of strands in wet state (n = 3, mean ± SD). (*P = 0.05, **P ≤ 0.01).

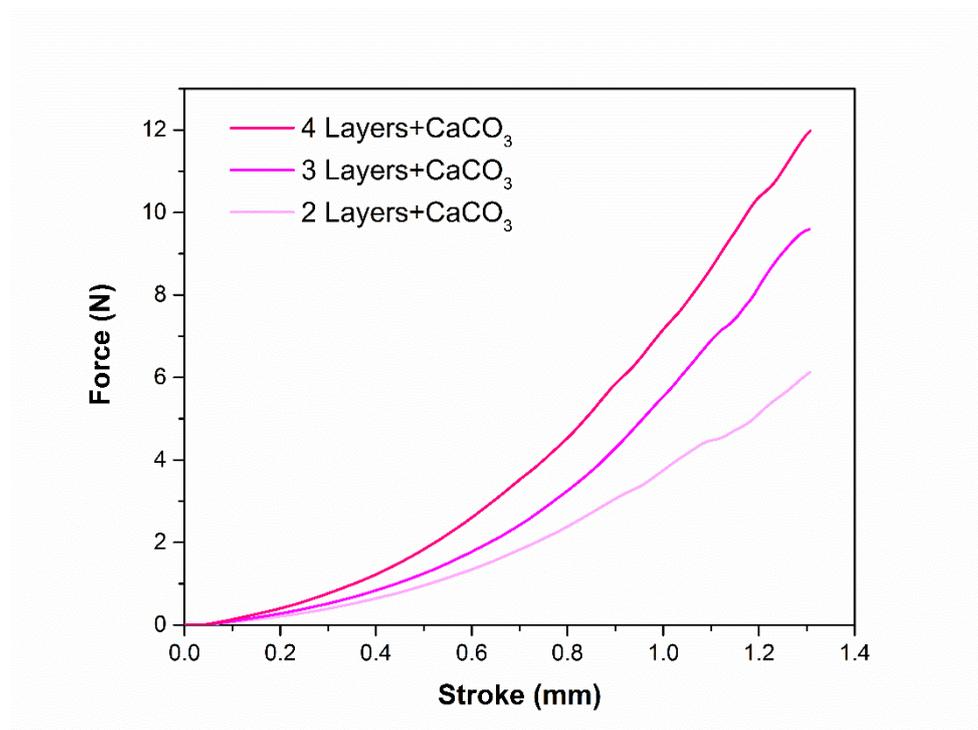


Figure S4. Static compression testing of 3D printed coaxial patches containing CaCO₃.

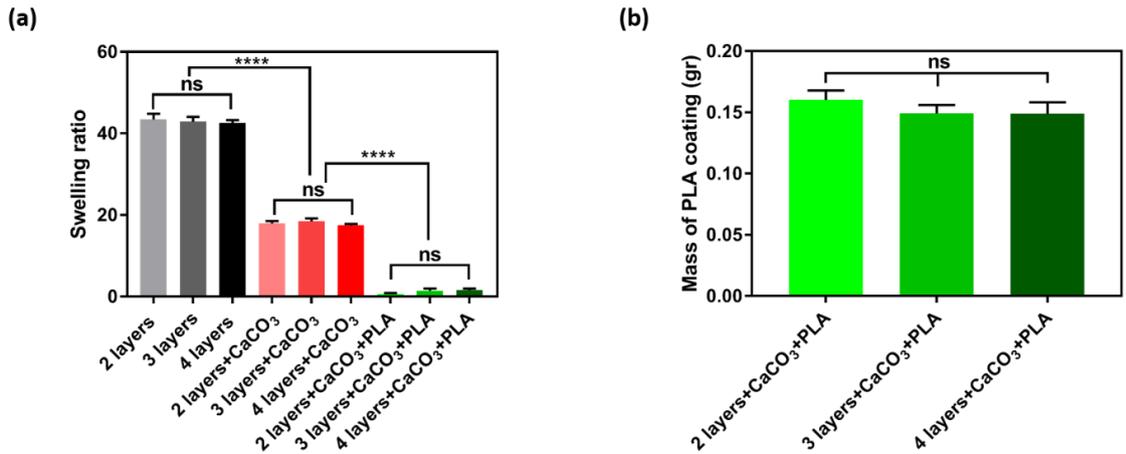


Figure S5. (a) Swelling ratio of different 3D printed coaxial patches in simulated body fluid (SBF). (b) Mass of PLA coating on the 3D printed coaxial patches containing CaCO₃, showing no significant difference between 2-, 3-, or 4-layers structures.

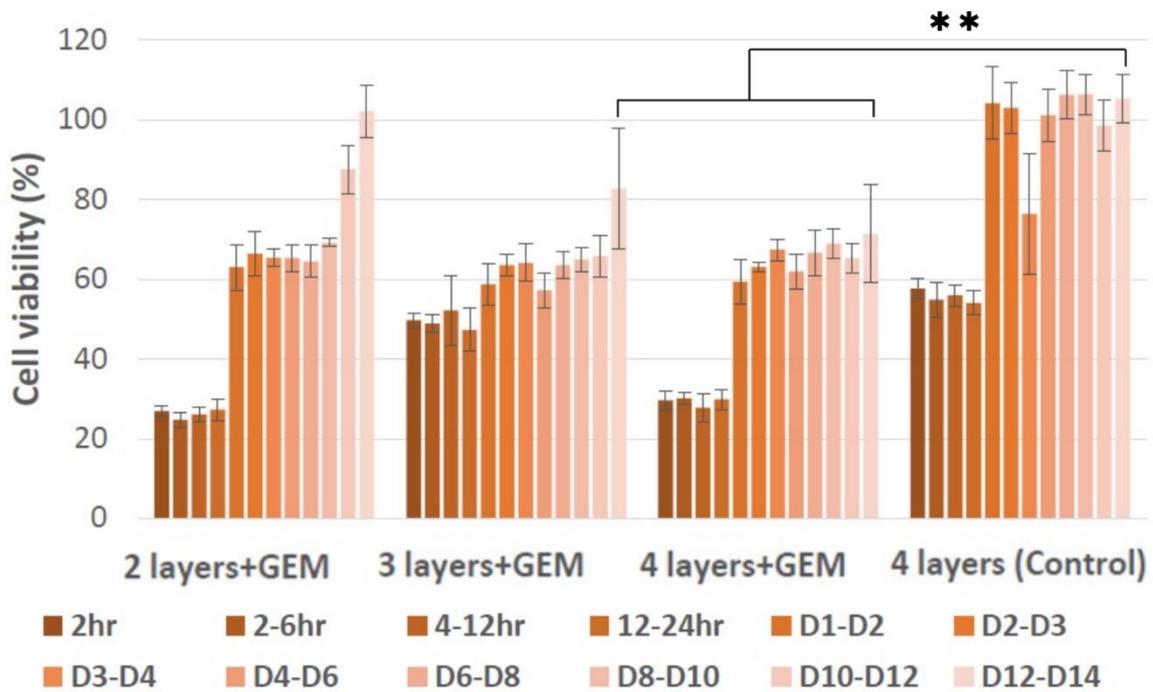


Figure S6. Therapeutic effect of PLA coated 3D printed coaxial patches containing CaCO₃, with Gemcitabine (+ GEM) or without Gemcitabine (control), on inhibition of MIA-PaCa-2 pancreatic cancer cell growth. Values are the mean (\pm SEM) of quadruplicate. D in the figure legend denotes days of treatment. **P \leq 0.01.