

Growth of mineralized collagen films by oriented calcium fluoride nanocrystals assembly with enhanced cell proliferation

Weijian Fang,¹ Hang Ping,^{1,*} Ying Huang,¹ Xie Hao,¹ Hao Wang,¹ Weimin Wang,¹
Zhengyi Fu^{1,*}

1. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China;

2. School of Chemistry, Chemical Engineering, and Life Science, Wuhan University of Technology, Wuhan 430070, China

E-mail: pinghang0716@163.com, zyfu@whut.edu.cn

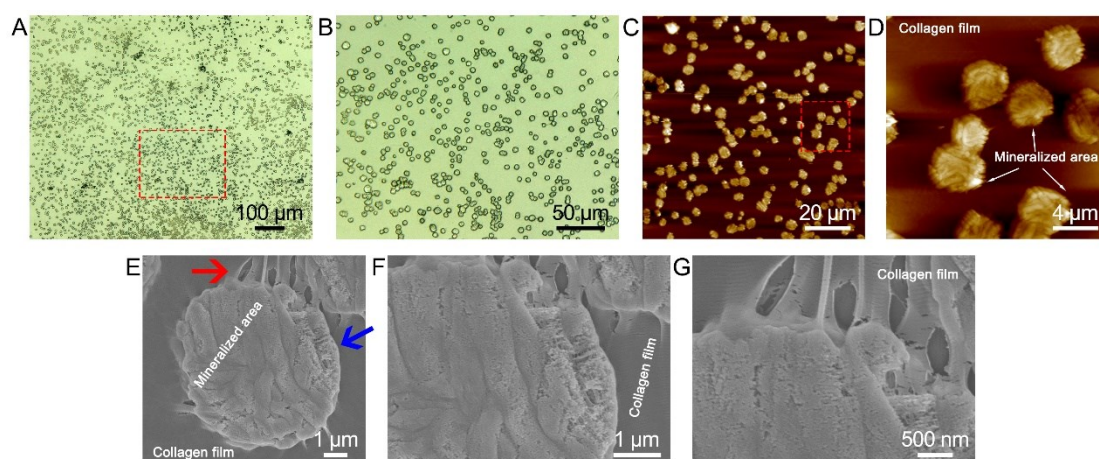


Figure S1 Mineralization of collagen films for 15 minutes. (A) Optical image of mineralized collagen films. (B) High magnification of red box area in (A). (C) AFM image of mineralized collagen films. (D) High magnification of red box area in (C). (E) SEM image of a mineralized area. SEM images of (F) the right area (blue arrow) and (G) the top area (red arrow) in (E).

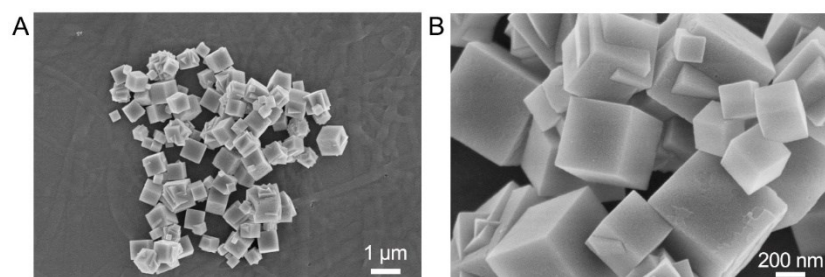


Figure S2 FESEM images of the collagen matrices mineralized with the CaF_2 precursor in the absence of PAA. (A) Low magnification image of collagen and CaF_2 crystals. (B) High magnification image of CaF_2 crystals.

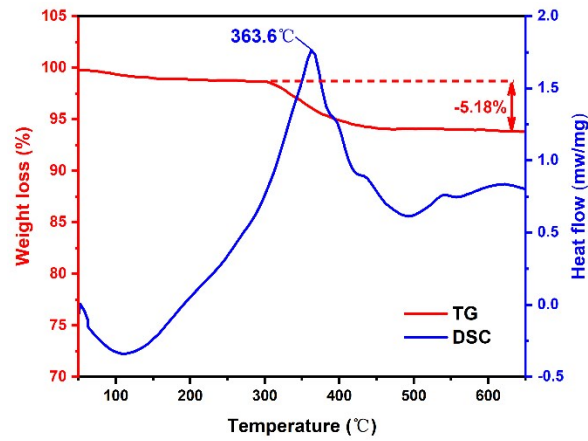


Figure S3 Thermogravimetric differential scanning calorimetry analysis of calcium fluoride mineralized collagen films.

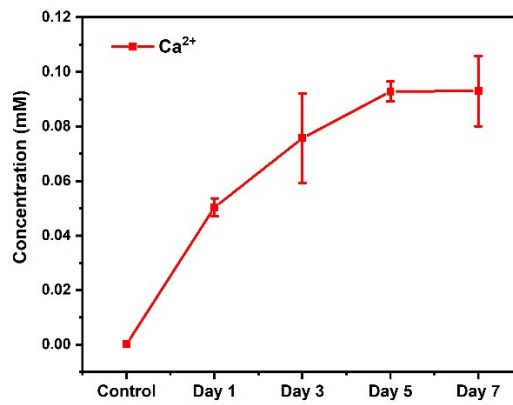


Figure S4 Concentration variation of calcium ion released from calcium fluoride mineralized collagen film at room temperature.

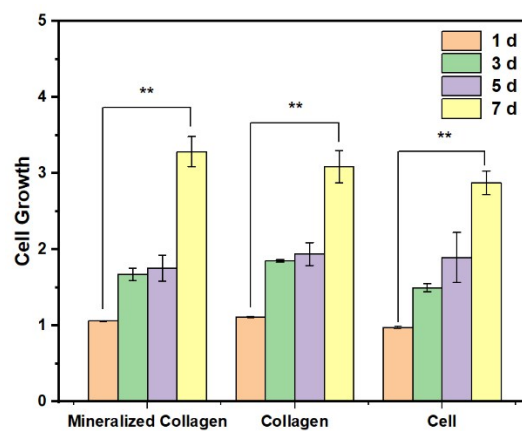


Figure S5 Cell proliferation and cytotoxicity on mineralized collagen fibrils, collagen fibrils and blank group for 1 d, 3 d, 5 d and 7 d. (** $p < 0.01$, one way ANOVA).