

### Supporting Information

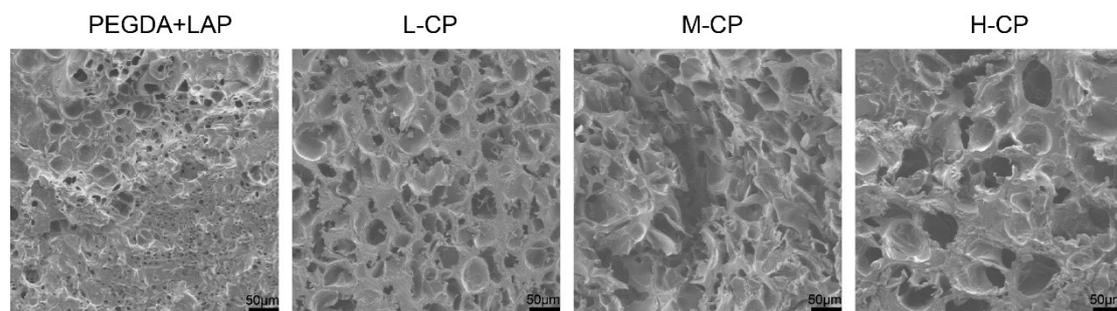


Fig. S1.

SEM images of different samples after freeze-drying.

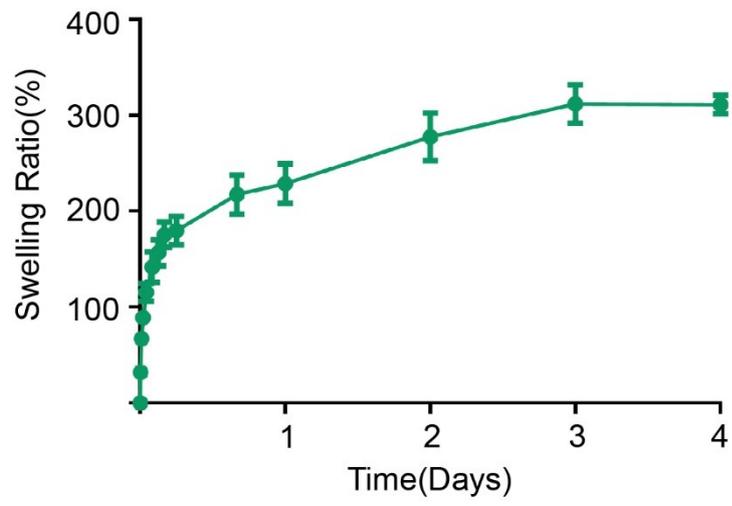


Fig. S2.

Swelling Ratio of CP hydrogel.

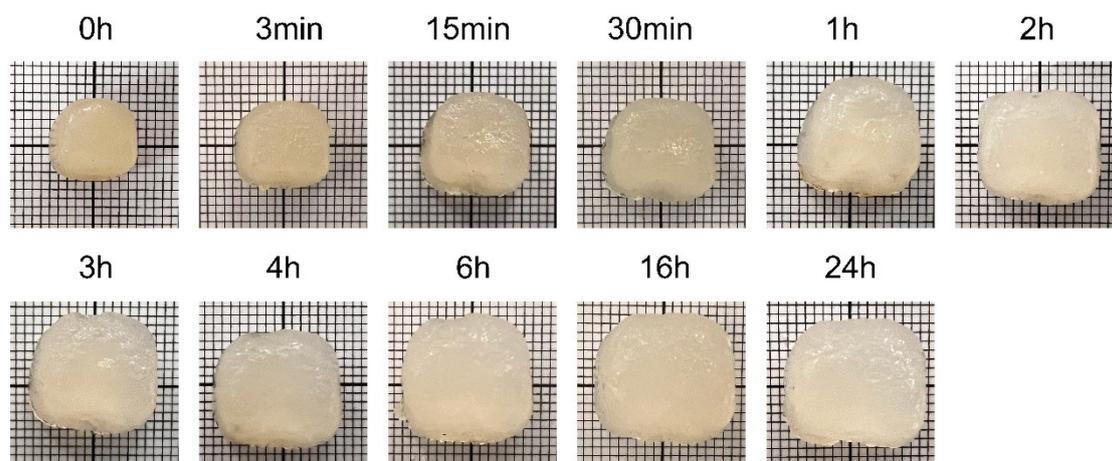


Fig. S3.

Photograph of CP hydrogel before and after immersion at different times.

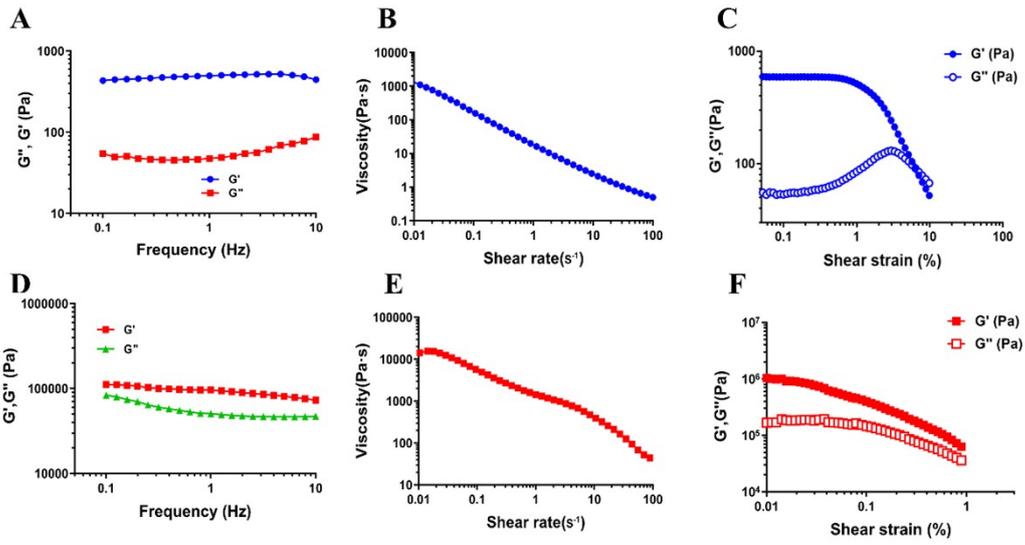


Fig. S4.

Rheological properties of Viscostat clear and Astingent retraction paste. (A)  $G'$  and  $G''$  of Viscostat clear under oscillation frequency test. (B) Evolution of viscosity with shear rate of Viscostat clear. (C)  $G'$  and  $G''$  of Viscostat clear under strain sweep test on the oscillation frequency of 1 Hz, and strain of 0.1 to 500 %. (D)  $G'$  and  $G''$  of Astingent retraction paste under oscillation frequency test. (E) Evolution of viscosity with shear rate of Astingent retraction paste. (F)  $G'$  and  $G''$  of Astingent retraction paste under strain sweep test on the oscillation frequency of 1 Hz, and strain of 0.1 to 500%.

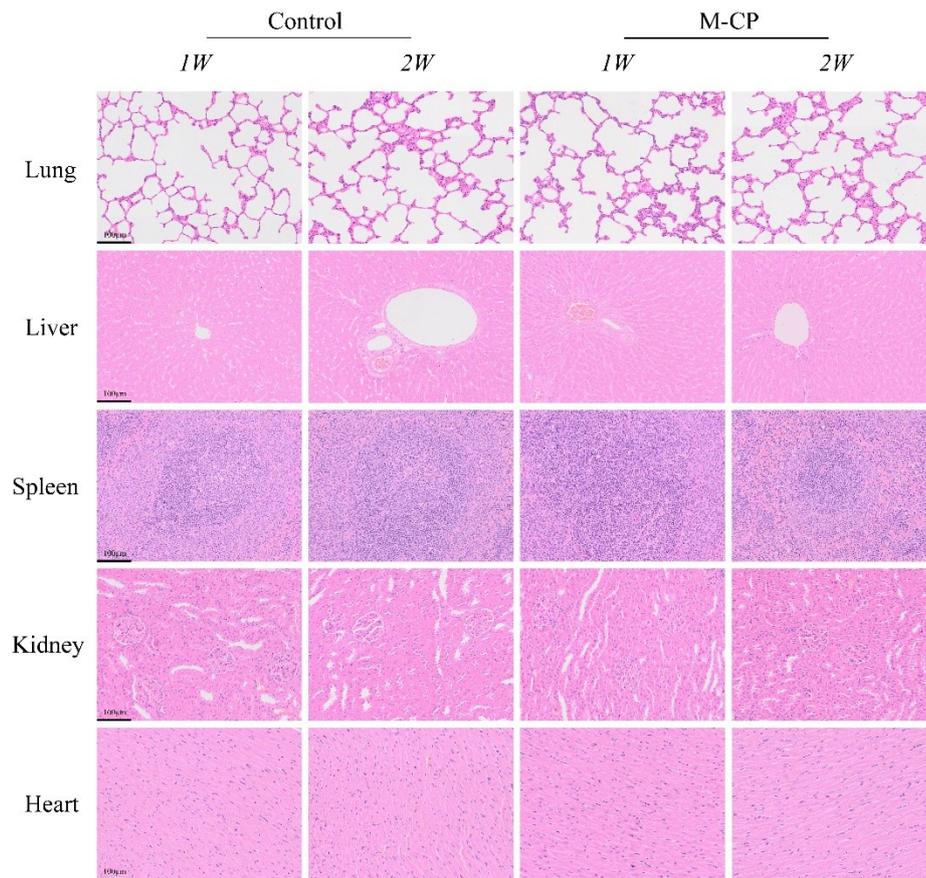


Fig. S5.

In vivo biocompatibility of CP hydrogels. H&E staining of the hearts, livers, spleens, lungs, and kidneys at 1 and 2 weeks.