

Fig. S1 Characterization of MC microfibrils. A. EDS images of elemental distribution of Ca, O, P, and Mg of Mg-doped MC microfibrils. B. Representative SEM morphology of MC microfibrils. C. TGA curve of MC microfibrils. The results showed that MC microfibrils have an obvious nanofibril structure and the Mg element was successfully doped in MC microfibrils. And MC microfibrils had relatively high mineral content (~80%).

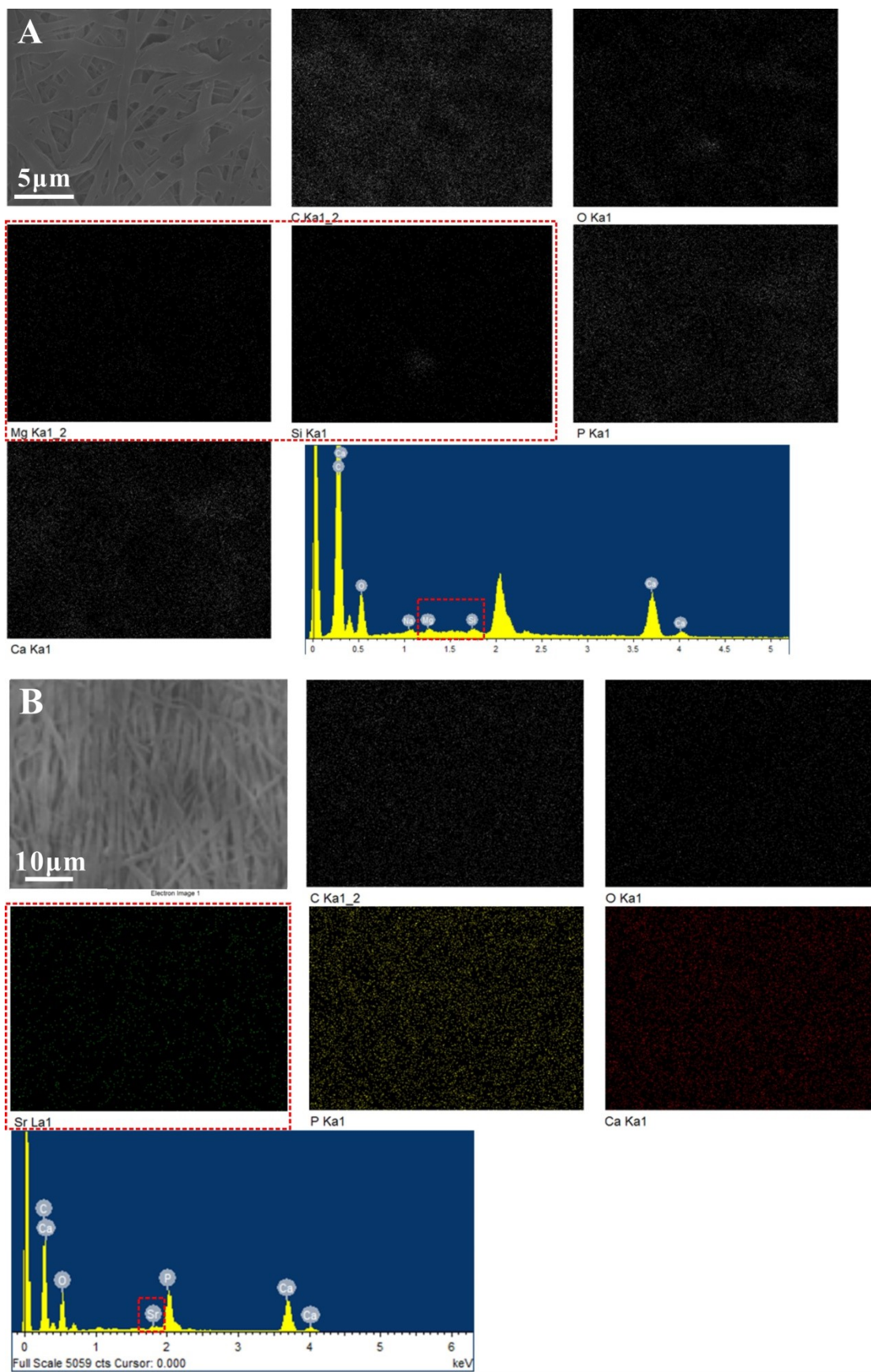


Fig. S2 Element-doped electrospun MC fibril layers A. Mg/Si-doped MC fibrils in Mg^{2+} and SiO_3^{2-} . B. Sr-doped MC fibrils.

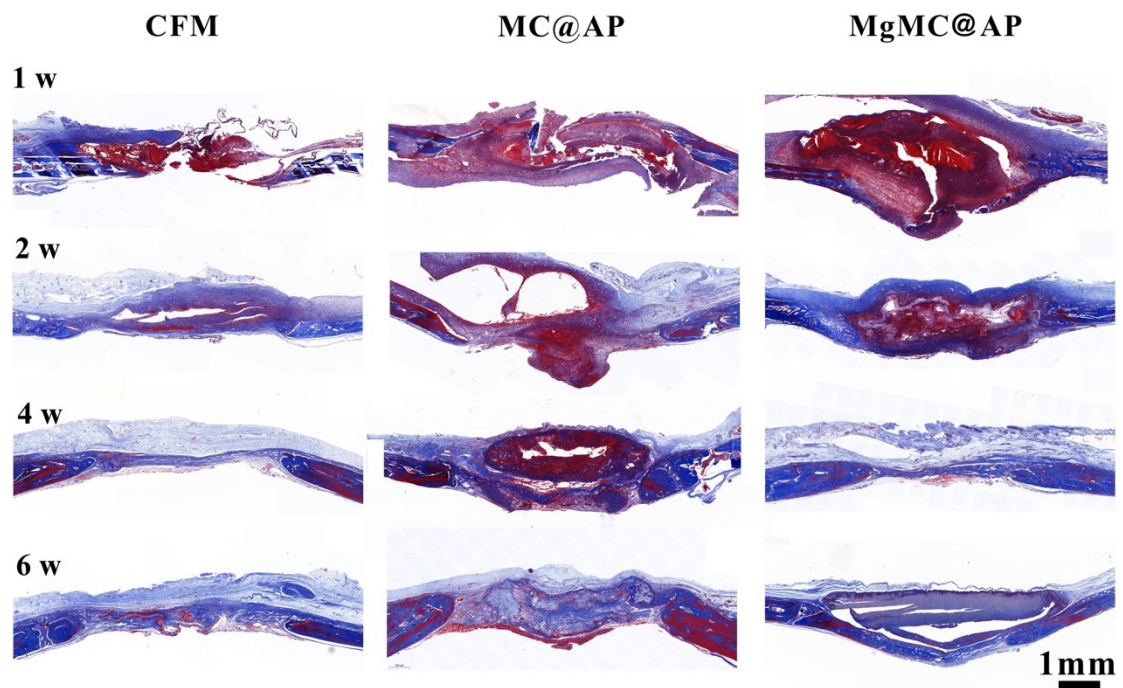


Fig. S3 Masson trichrome staining images of the whole defect areas from CFM, MC@AP, and MgMC@AP groups at different time points.

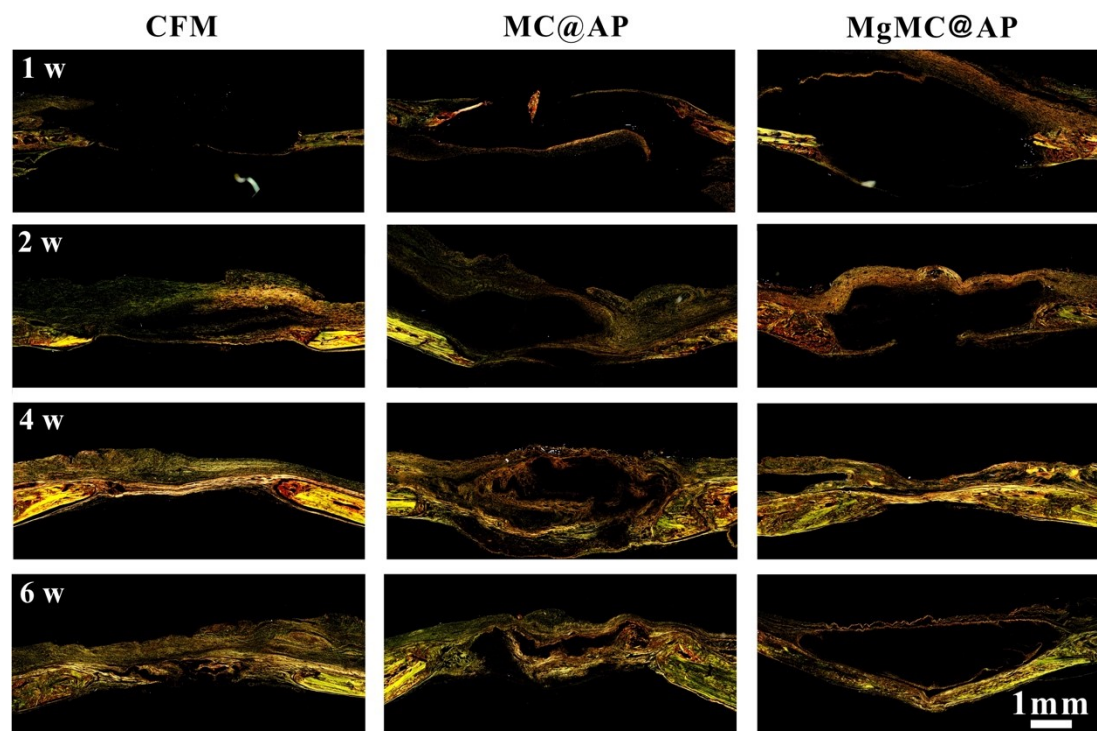


Fig.S4 Sirius red staining images of the whole defect areas from CFM, MC@AP, and MgMC@AP groups at different time points.

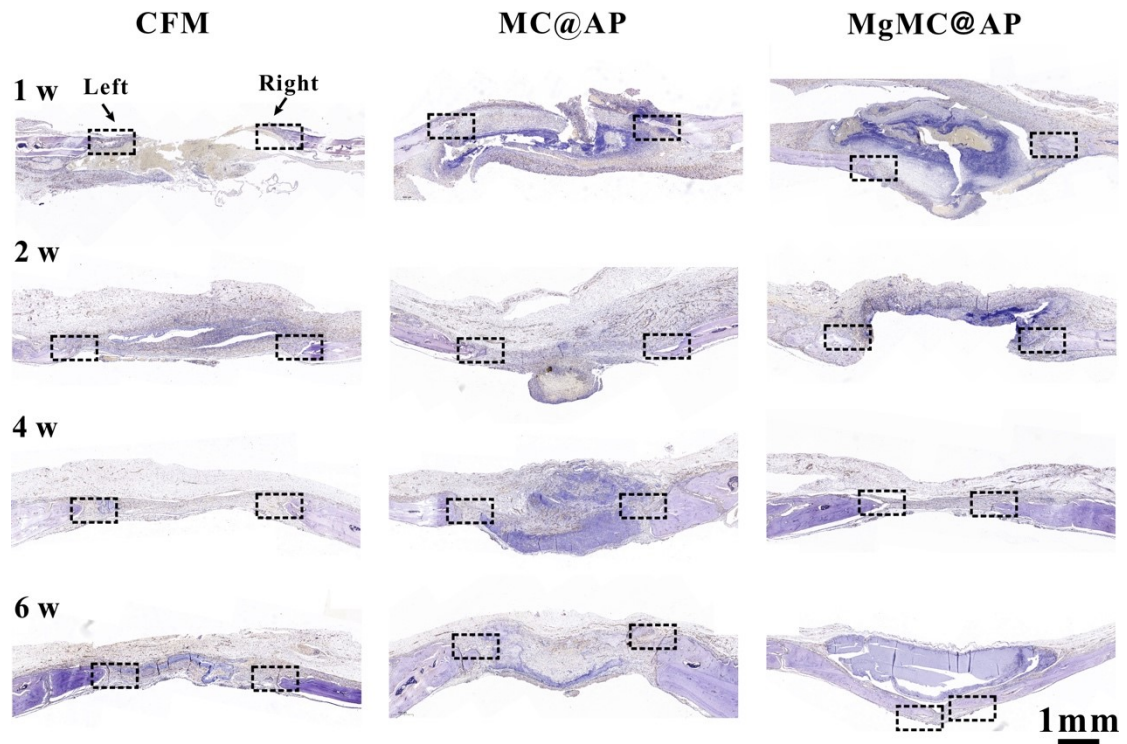


Fig. S5 CD 31 staining images of the whole defect areas from CFM, MC@AP, and MgMC@AP groups at different time points.