**Supplementary information**

![Bar chart showing setting time of α-TCP cements with 5% γ-PGA or 5% m-PGA solutions](image)

**Figure S1.** Setting time of the α-TCP cements with 5% γ-PGA or 5% m-PGA solutions (* indicates $p<0.05$).
Figure S2. Compressive strength of the α-TCP cements with 5% γ-PGA or 5% m-PGA solutions (* indicates $p<0.05$).

Figure S3. FTIR spectra of α-TCP (A), α-TCP/1% m-PGA (B), α-TCP/5% m-PGA (C) and α-TCP/10% m-PGA (D) cements.
Figure S4. TGA of α-TCP cements with different concentrations of m-PGA solutions.
Figure S5. FTIR spectra of α-TCP/5% m-PGA cements after mixing for 1 min, 10 min, 30 min and 24 h.
Figure S6. XRD patterns of α-TCP/5% m-PGA cements after reacting for different times.
**Figure S7.** Images of α-TCP/5% m-PGA cements after mixing (A), injection (B) and molding (C).
Figure S8. SEM images of α-TCP cements and α-TCP/5% m-PGA cements after soaking for 0, 2, 4 and 8 weeks.