Electronic Supplementary Material (ESI) for RSC Advances.


# Fabrication of composite of nanocrystalline carbonated hydroxyapatite (cHAP) with polylactic acid (PLA) and its surface topographical structuring with direct laser writing (DLW)

**Supporting information - figure captions:**

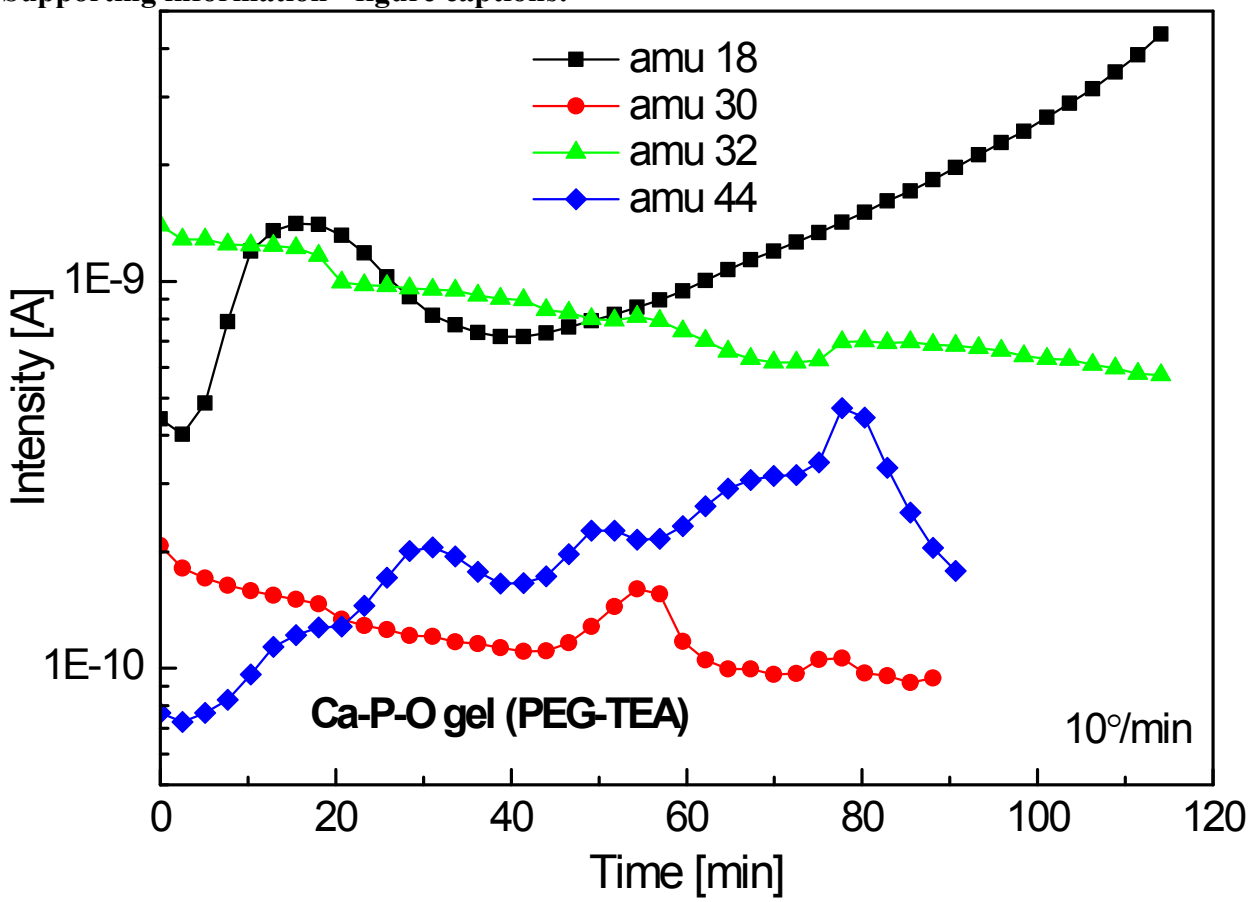


**Figure S1.** MS curves of Ca-P-O gel synthesized using PEG-TEA matrix.

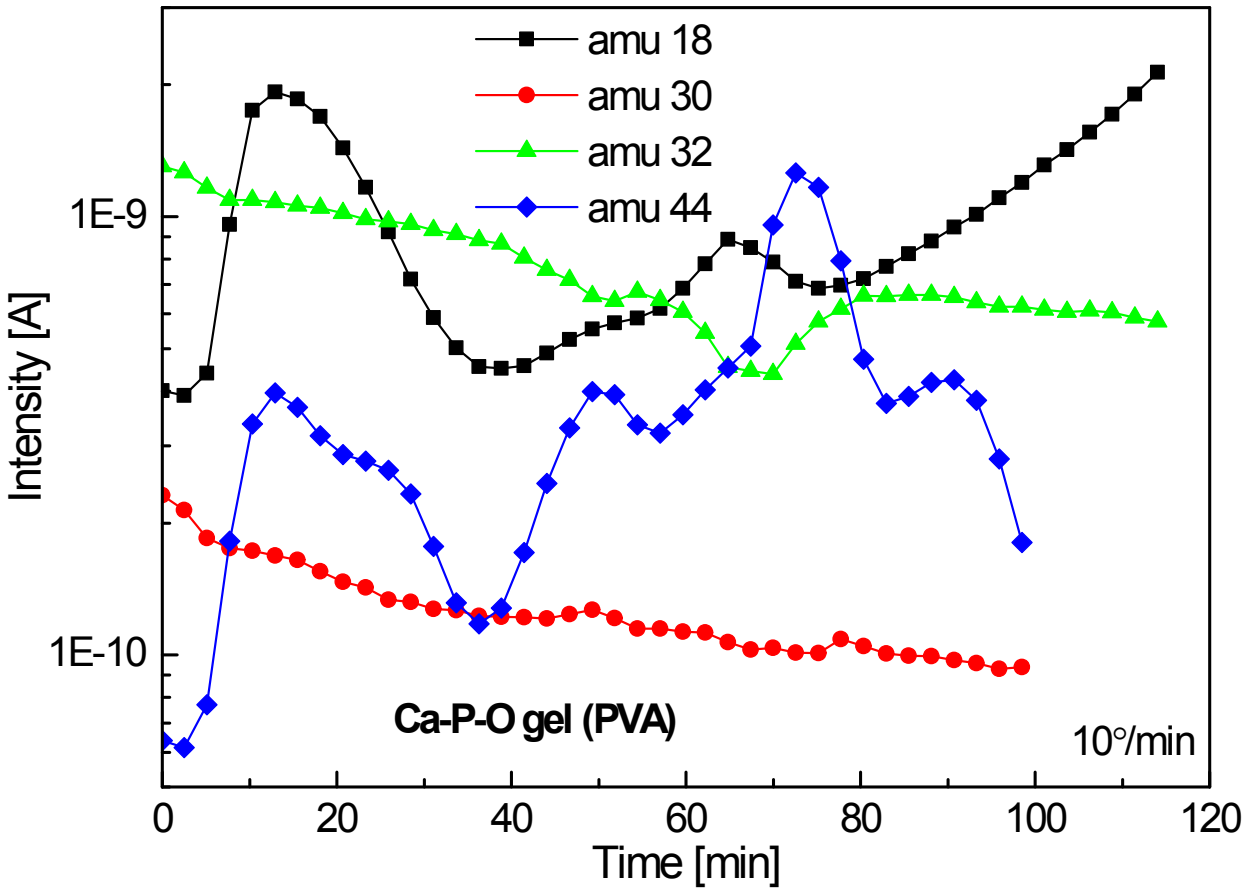


**Figure S2.** MS curves of Ca-P-O gel synthesized using PVA matrix.

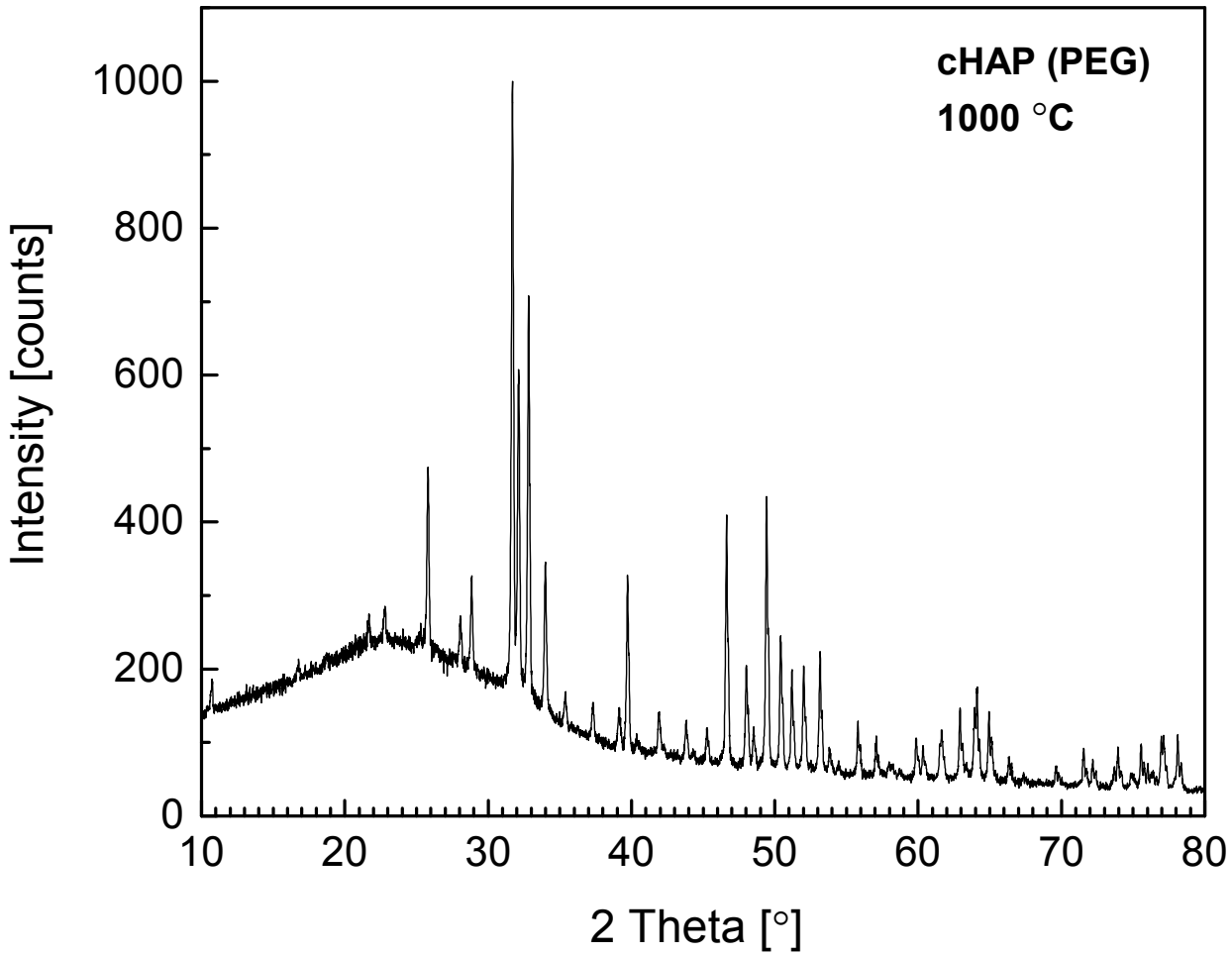


**Figure S3.** XRD diffractogram of cHAP (PEG) annealed at 1000 °C for 5 h (background increment is due to glass sample holder).

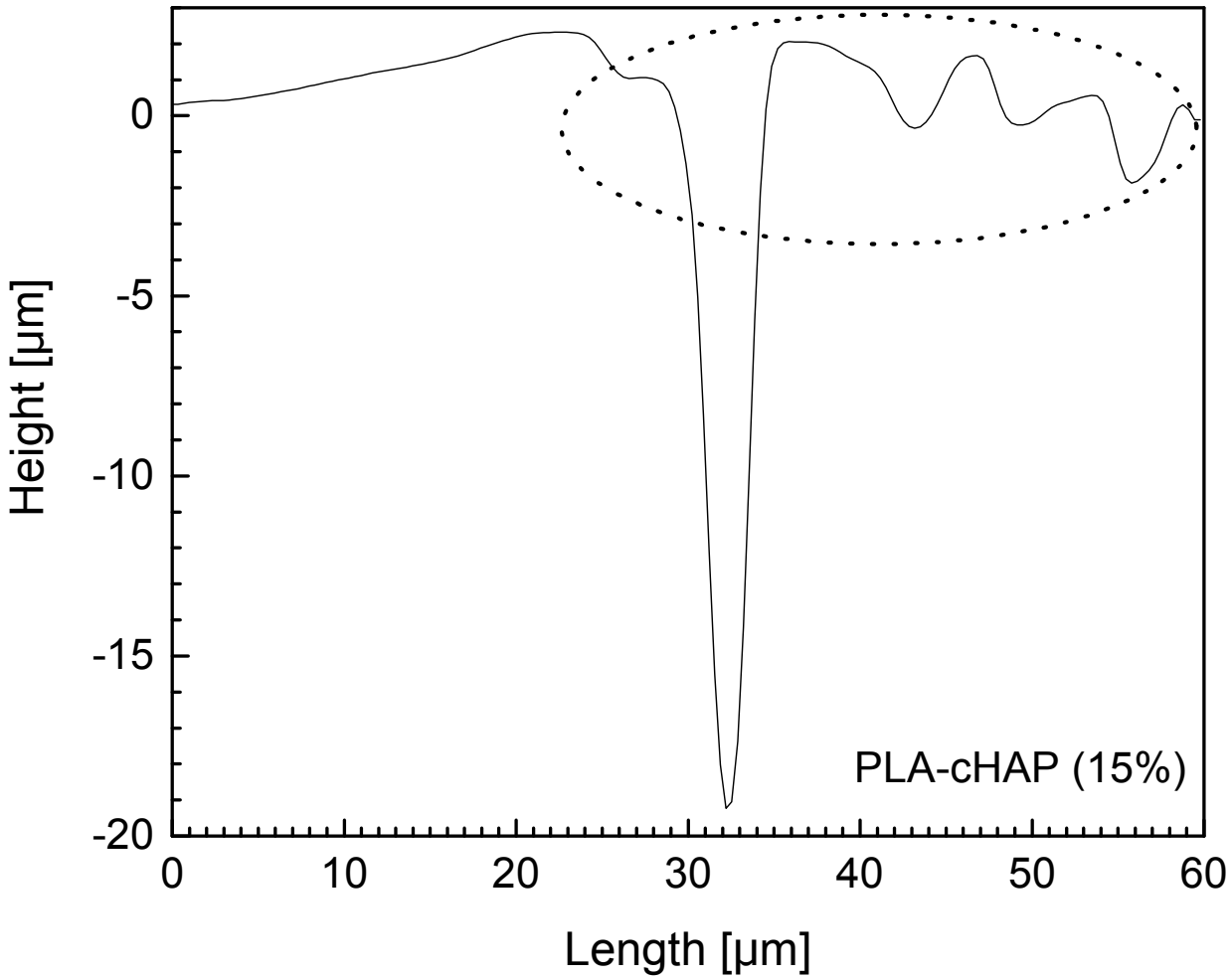


**Figure S4**. Optical profilometer height profile showing depth of the independent groove fabricated on the surface of PLA-HAP (15%) composite pellet (lines were fabricated using peak intensity of 8.93 TW/cm$^2$ and the translation velocities of 250 μm/s) and roughness of the damaged surface (marked as dotted circle) after the composite pellet was exposed to the electron beam (post SEM analysis).