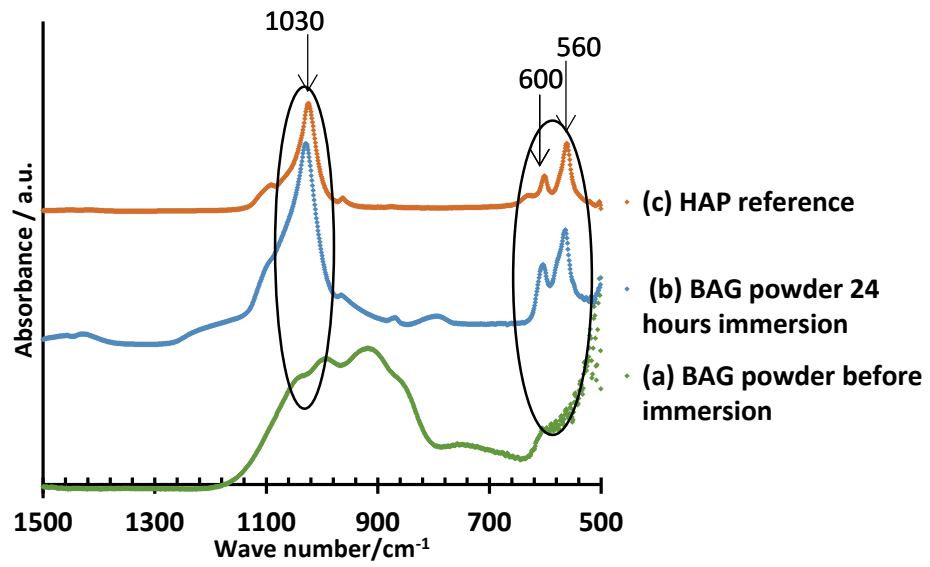
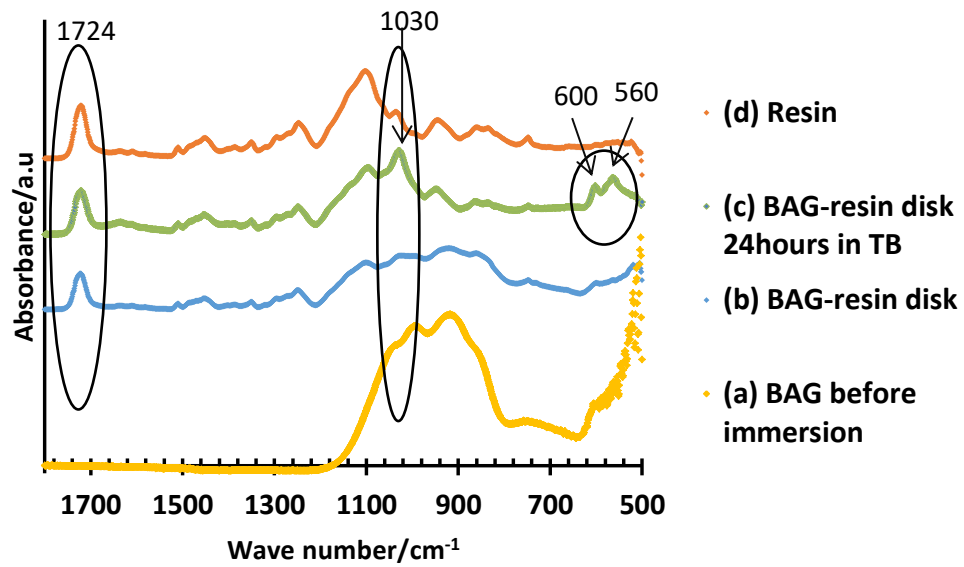


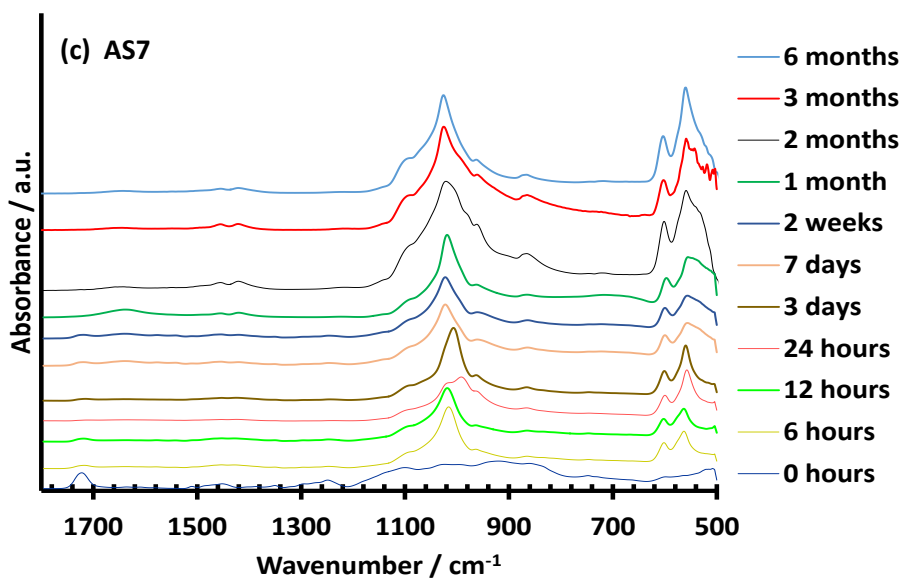
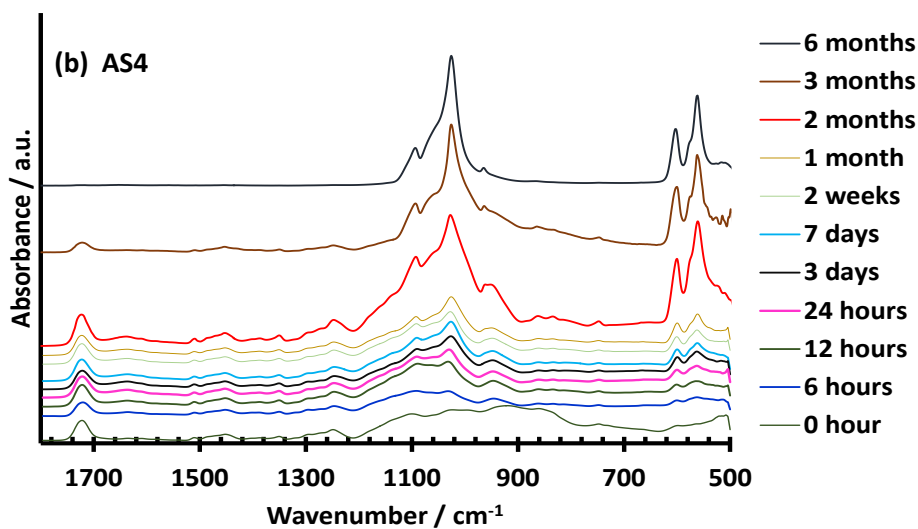
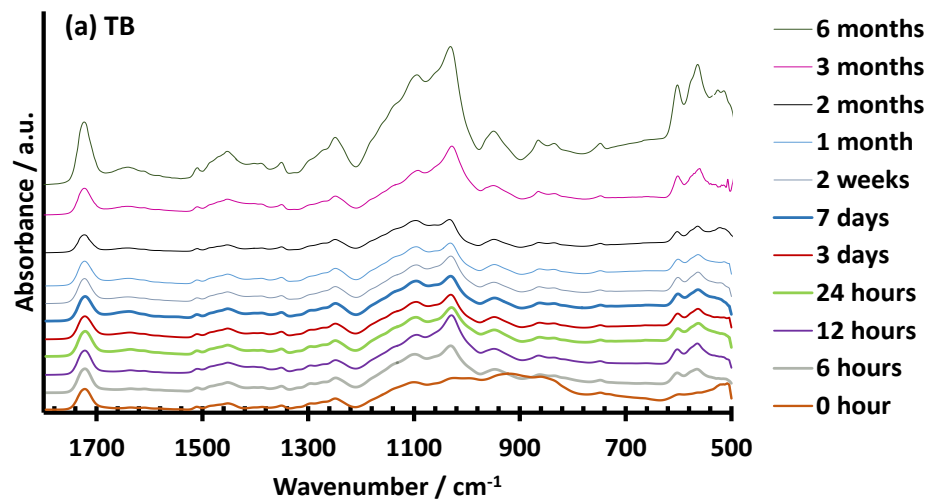
(Figure 1) XRD of the original glass (a) and the glass after 24 hours of immersion in the TB (b), with HAP reference. Apatite formed after immersion in TB.



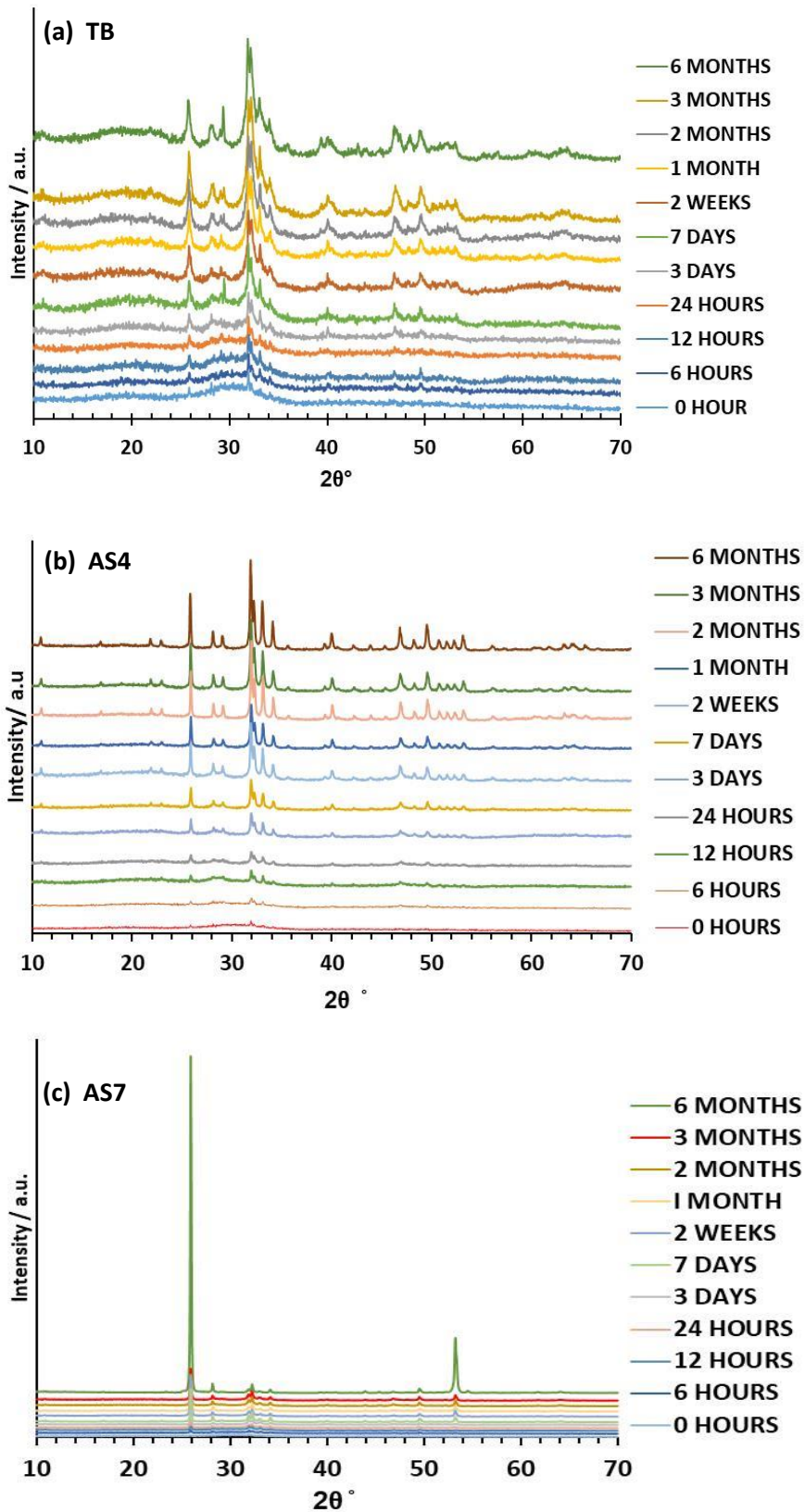
(Figure 2) ATR-FTIR spectra of the original glass (a), glass powder after 24 hours immersion in the TB (b) and the HAP reference (c).



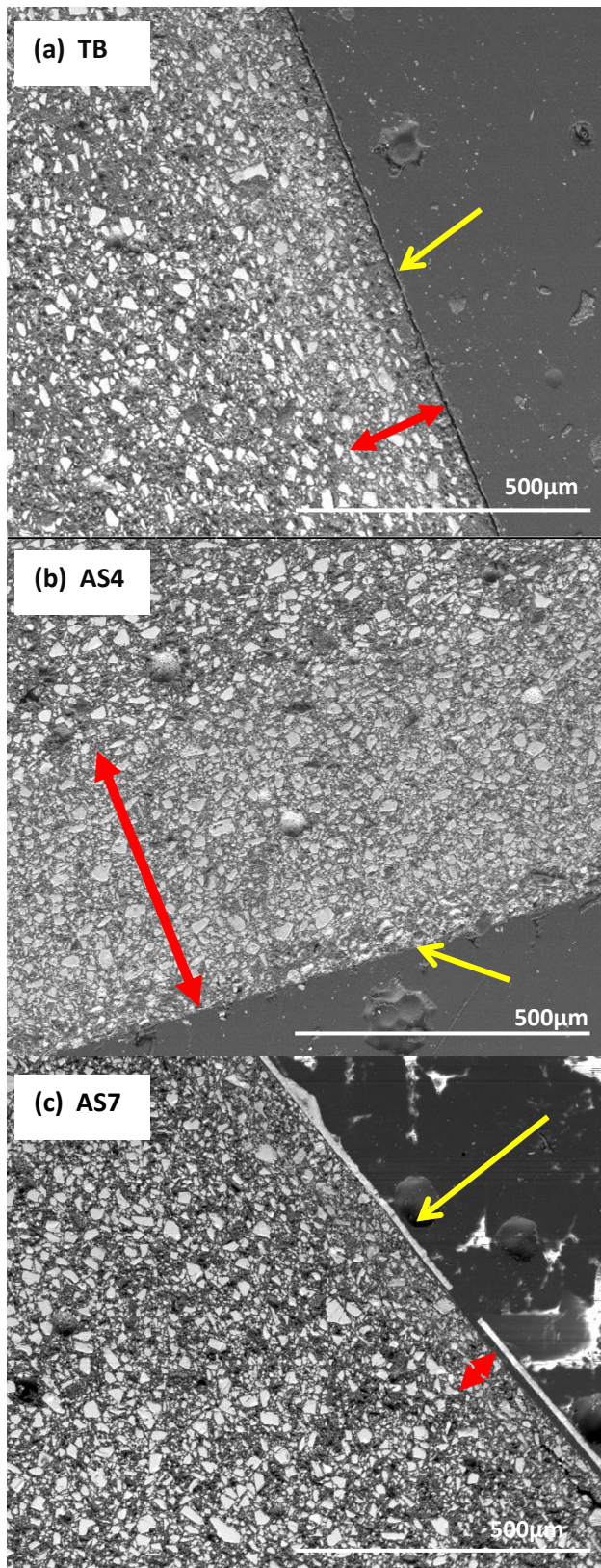
(Figure 3) ATR-FTIR spectra of the BAG powder before immersion (a), BAG-resin disk, before (b) and after (c) immersion and the resin alone (d).



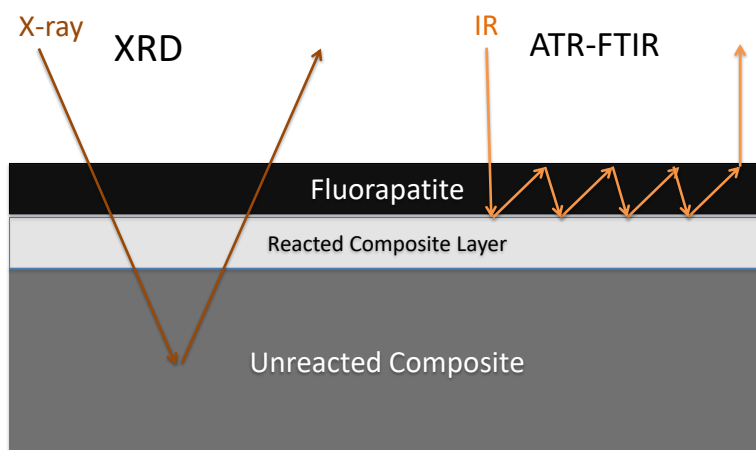
(Figure 4) ATR-FTIR spectra of the BAG-resin disks after immersion in (a) TB, (b) AS4 and (c) AS7 for up to 6 months.



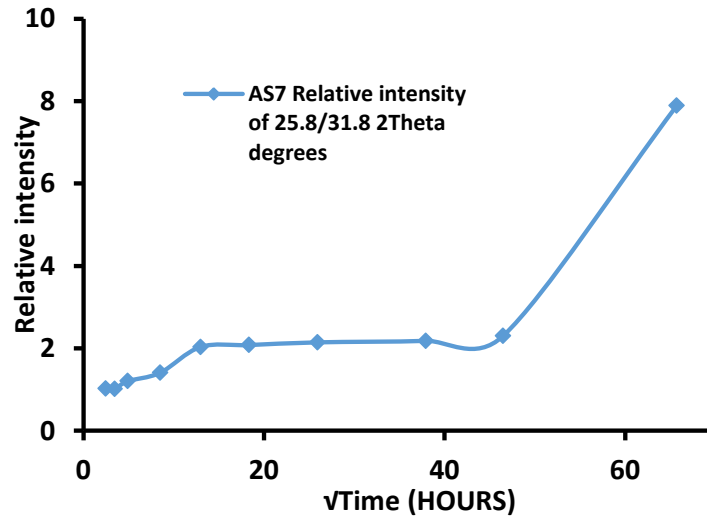
(Figure 5) XRD patterns of the BAG-resin disks after immersion in (a) TB, (b) AS4 and (c) AS7 for up to 6 months.



(Figure 6) SEM images of cross sections of the BAG-resin disks after 6 months immersion in (a) TB, (b) AS4 and (c) AS7. The yellow arrows point to the surface apatite precipitate. The red arrows indicate BAG-resin reactive layers.

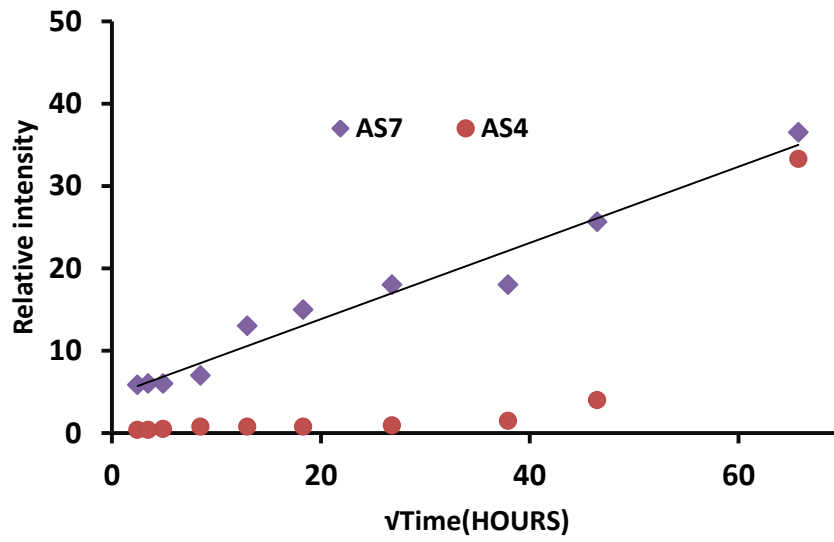


(Figure 7) Schematic illustration of probed depths with XRD and ATR-FTIR. X-ray Diffraction probes about the first 50 microns of sample surface whilst ATR-FTIR probes the first few microns.



(Figure 8) The relative intensity of apatite peaks at 25.8° (002 direction) to that at 31.8° (121 direction) for samples immersed in AS7 as a function of time.





(Figure 9) The relative intensity of the apatite ATR-FTIR spectra (at  $600\text{cm}^{-1}$  normalised to  $1724\text{cm}^{-1}$ ) for AS4 and AS7 as a function of time.