

Figure A: Energy Dispersive Spectrometry (EDS) analysis: elemental maps of the SEM image of the SiN window after immersion in mineralising solution for 12 hours in the presence of P_{11-4} , indicating the calcium phosphate structures are formed after 12 hours in the presence of P_{11-4} . Ca = Calcium, P = Phosphorus, O = oxygen, S = Silicon, Cl = Chlorine, Na = Sodium, C = Carbon and N = Nitrogen.

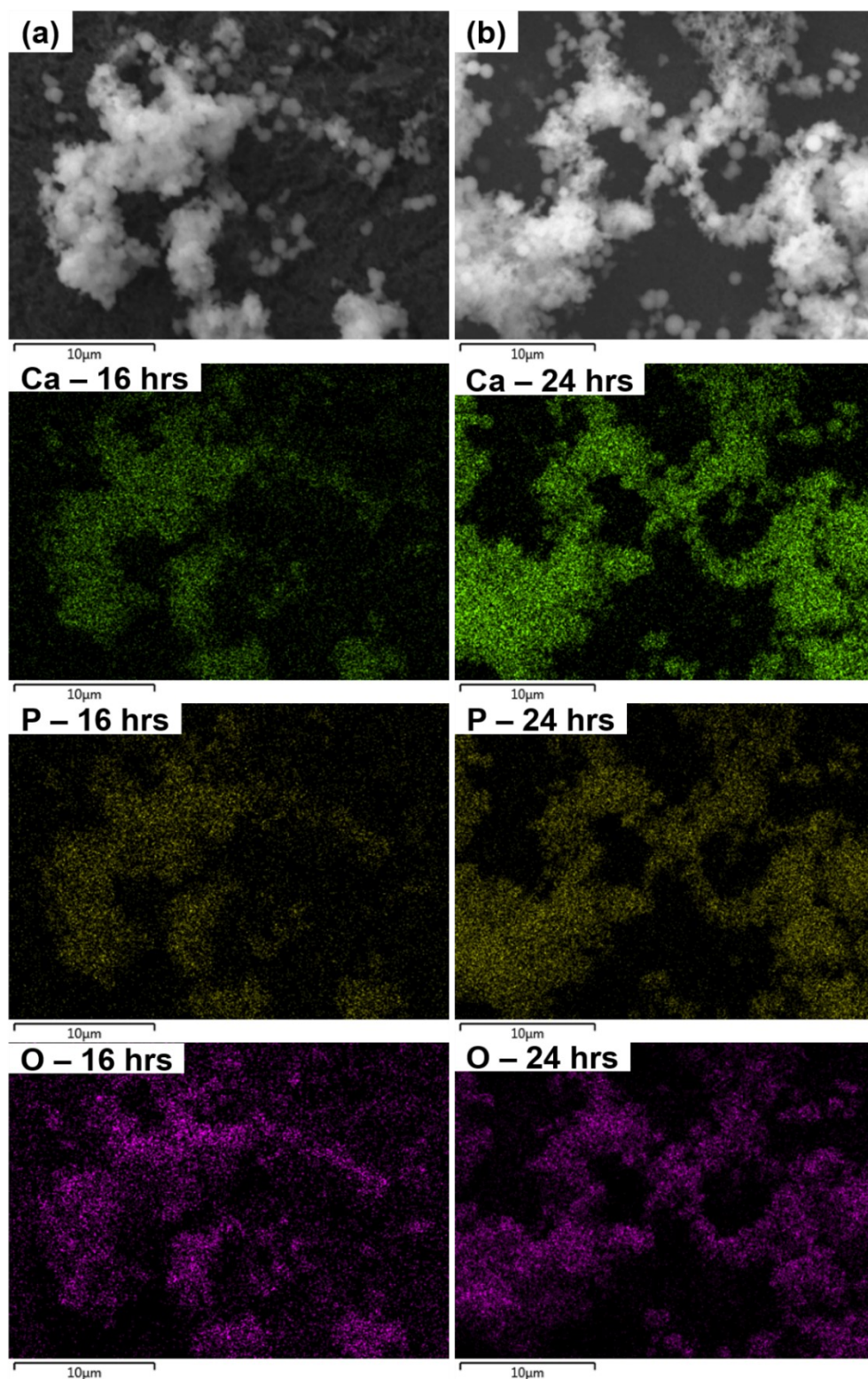


Figure B: Energy Dispersive Spectrometry (EDS) analysis: elemental maps (underneath each image) of the SEM image of the SiN window after immersion in mineralising solution for (a) 16 hours and (b) 24 hours in the presence of P_{11-4} , indicating that the formed structures are made of calcium phosphate. The image mapped is on the top left at a magnification = x4000. The secondary electron detector was used at an energy of 20 kV, a working distance of 11 mm and a spot size of 60 nm. Ca = Calcium, P = Phosphorus, O = oxygen.

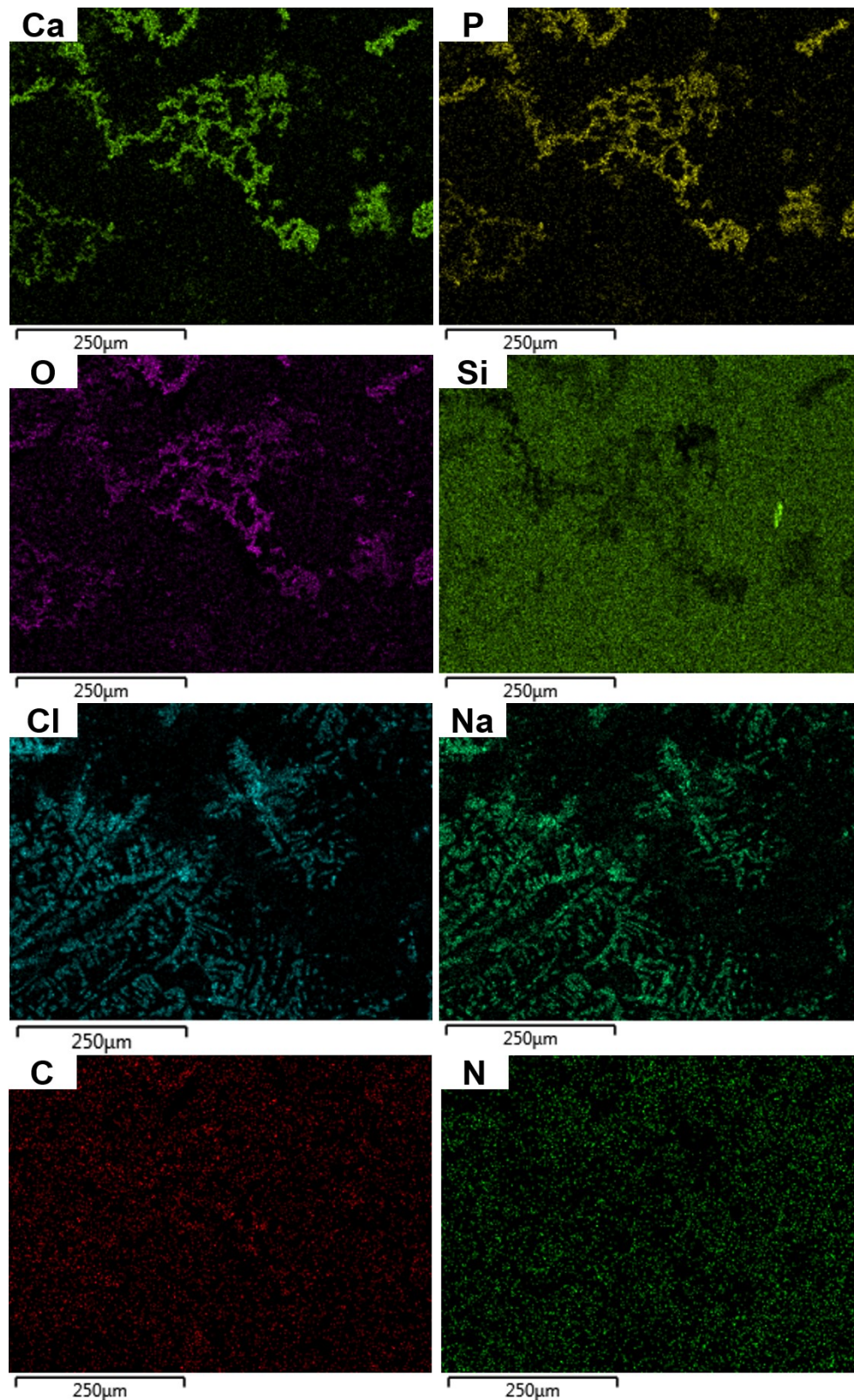


Figure C: Energy Dispersive Spectrometry (EDS) analysis: elemental maps of the SEM image of the SiN window after immersion in mineralising solution for 48 hours in the presence of P_{11-4} (magnification = x4000). Ca = Calcium, P = Phosphorus, O = oxygen, S = Silicon, Cl = Chlorine, Na = Sodium, C = Carbon and N = Nitrogen.

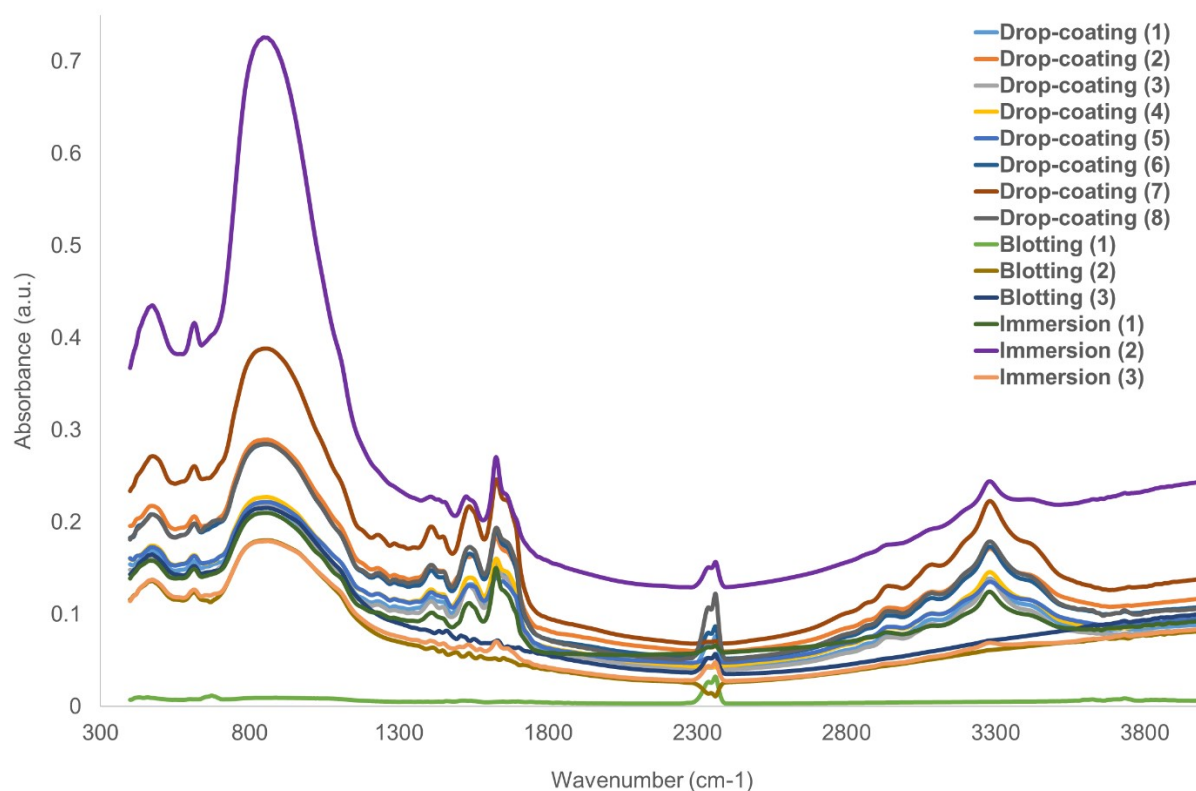


Figure D: Fourier Transform Infrared Spectroscopy (FTIR) spectra of silicon nitride (SiN) windows with deposited P_{11-4} using three different deposition methods: blotting ($n = 3$), drop-coating ($n = 8$), and immersion ($n = 3$). The peak at 1620 cm^{-1} (wave number) is indicative of the presence of the β -sheet conformation.

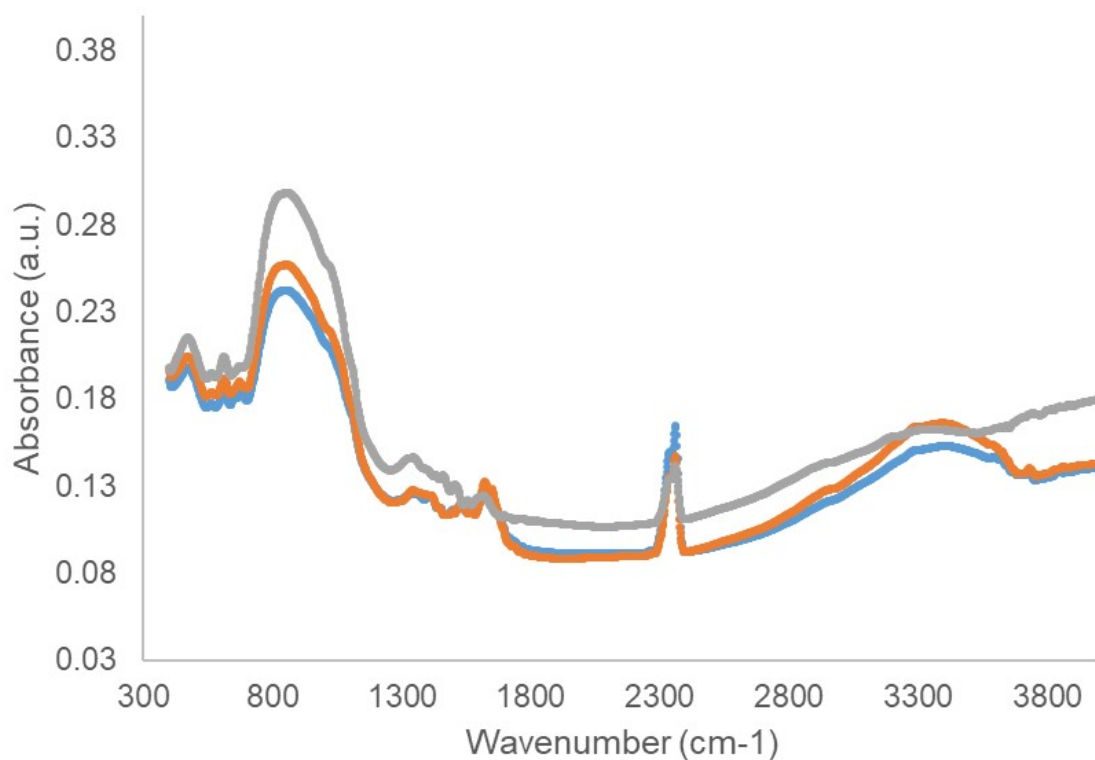


Figure E: Fourier Transform Infrared Spectroscopy (FTIR) spectra of silicon nitride (SiN) windows with deposited P_{11-4} using the drop-coating method after immersion in mineralising solution (MS) for ~4-5 hours. The peak at 1620 cm⁻¹ (wave number) is indicative of the presence of the β -sheet conformation.