

ESI

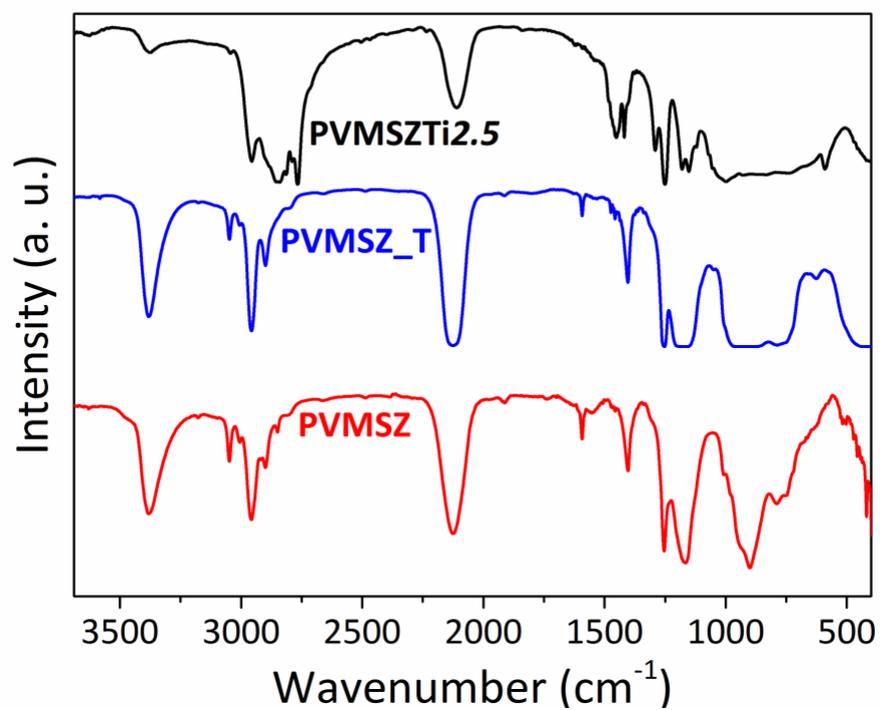


Figure S1: FTIR spectra of PVMSZ, PVMSZ_T and PVMSZTi2.5 samples.

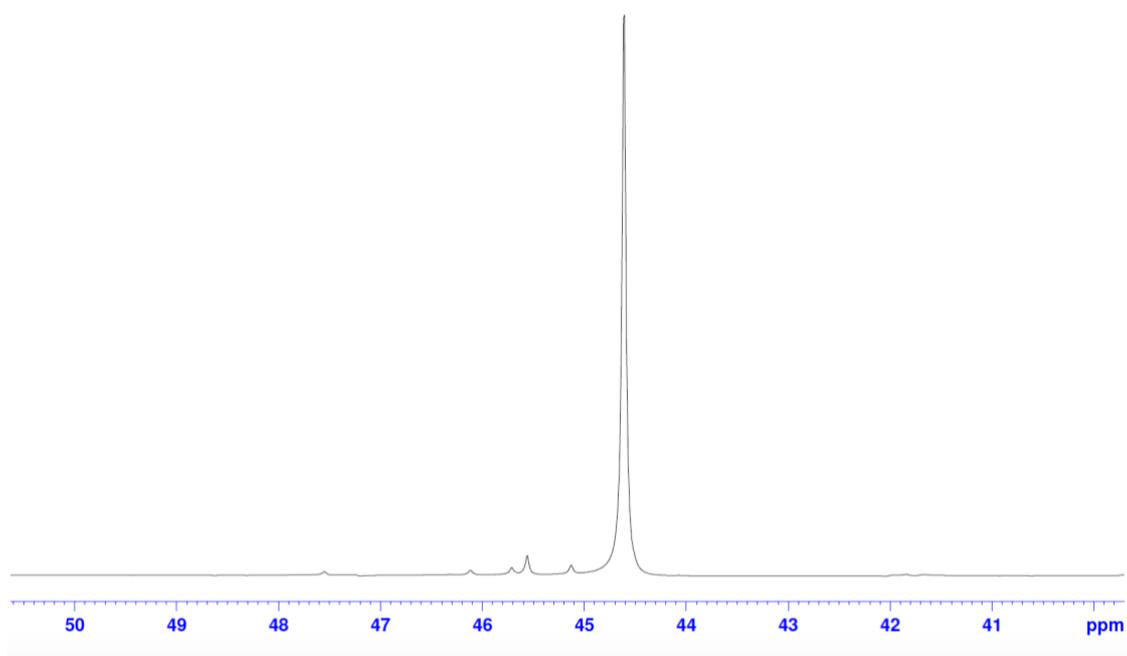


Figure S2: liquid-state ¹³C NMR spectrum of TDMAT.

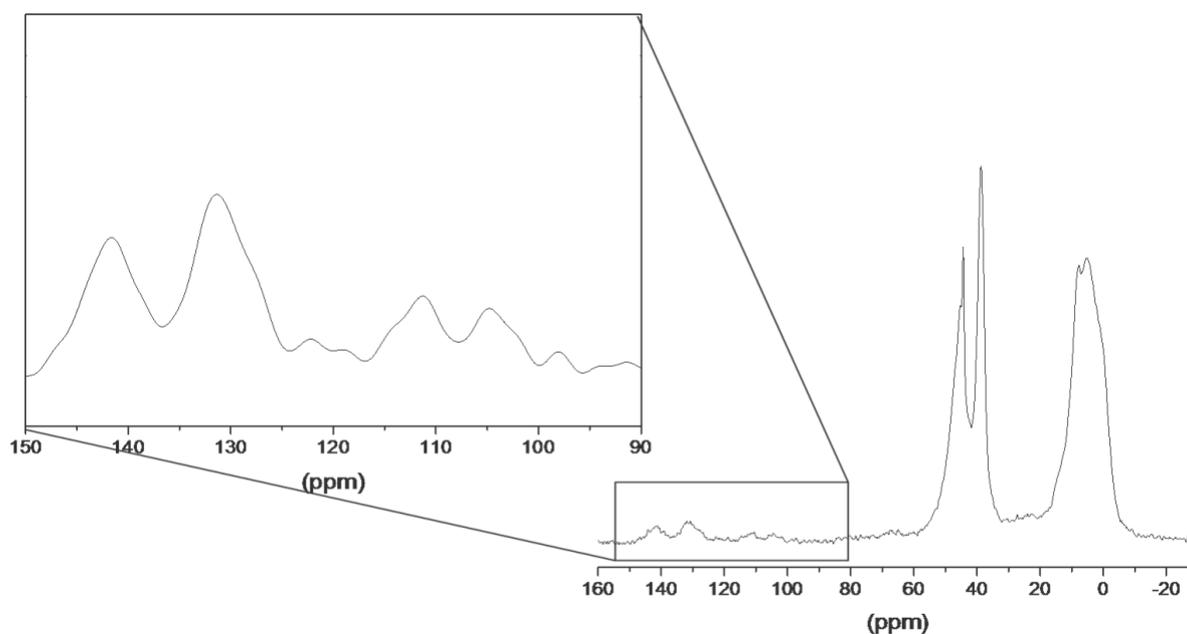


Figure S3: experimental ^{13}C CP MAS NMR recorded for the PVMSZTi_{2.5} sample from -20 to 160 ppm.

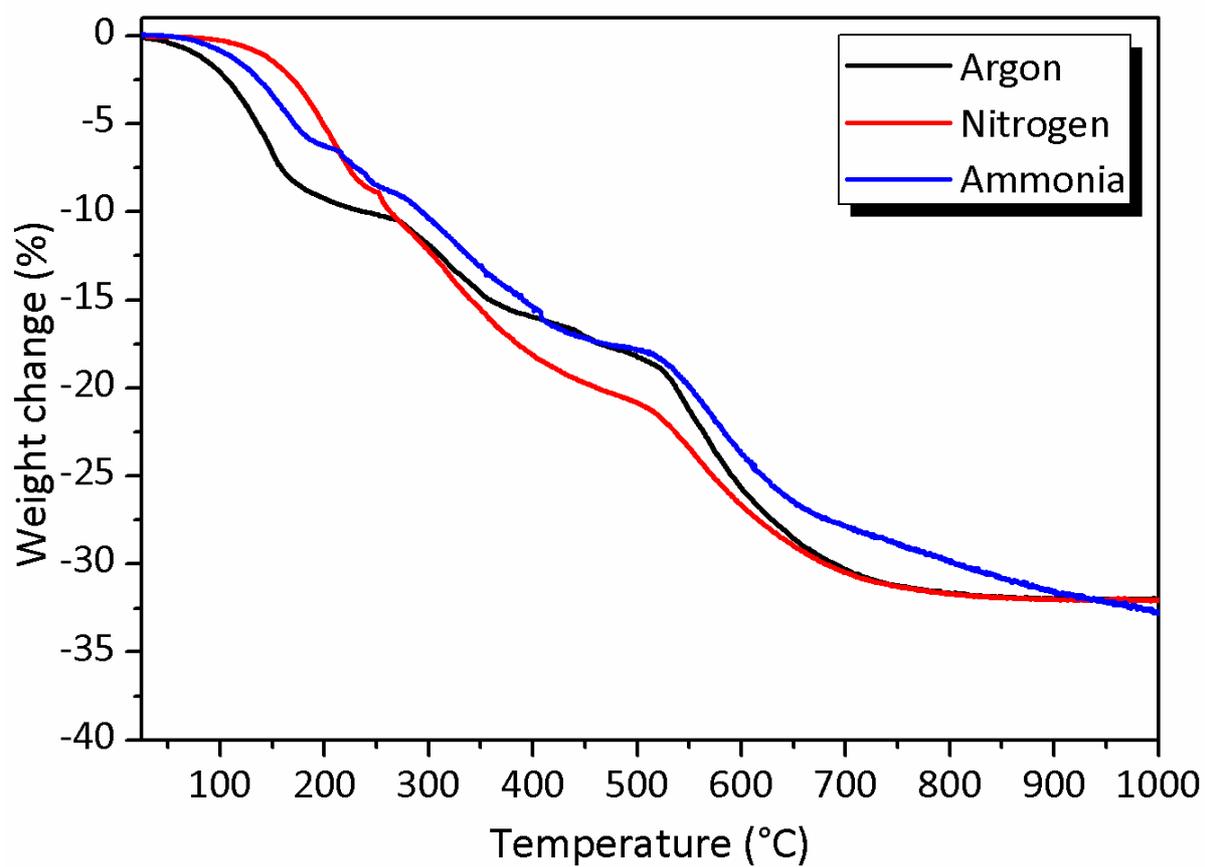


Figure S4: TG curves recorded during decomposition of PVMSZ in flowing ammonia, nitrogen and argon.

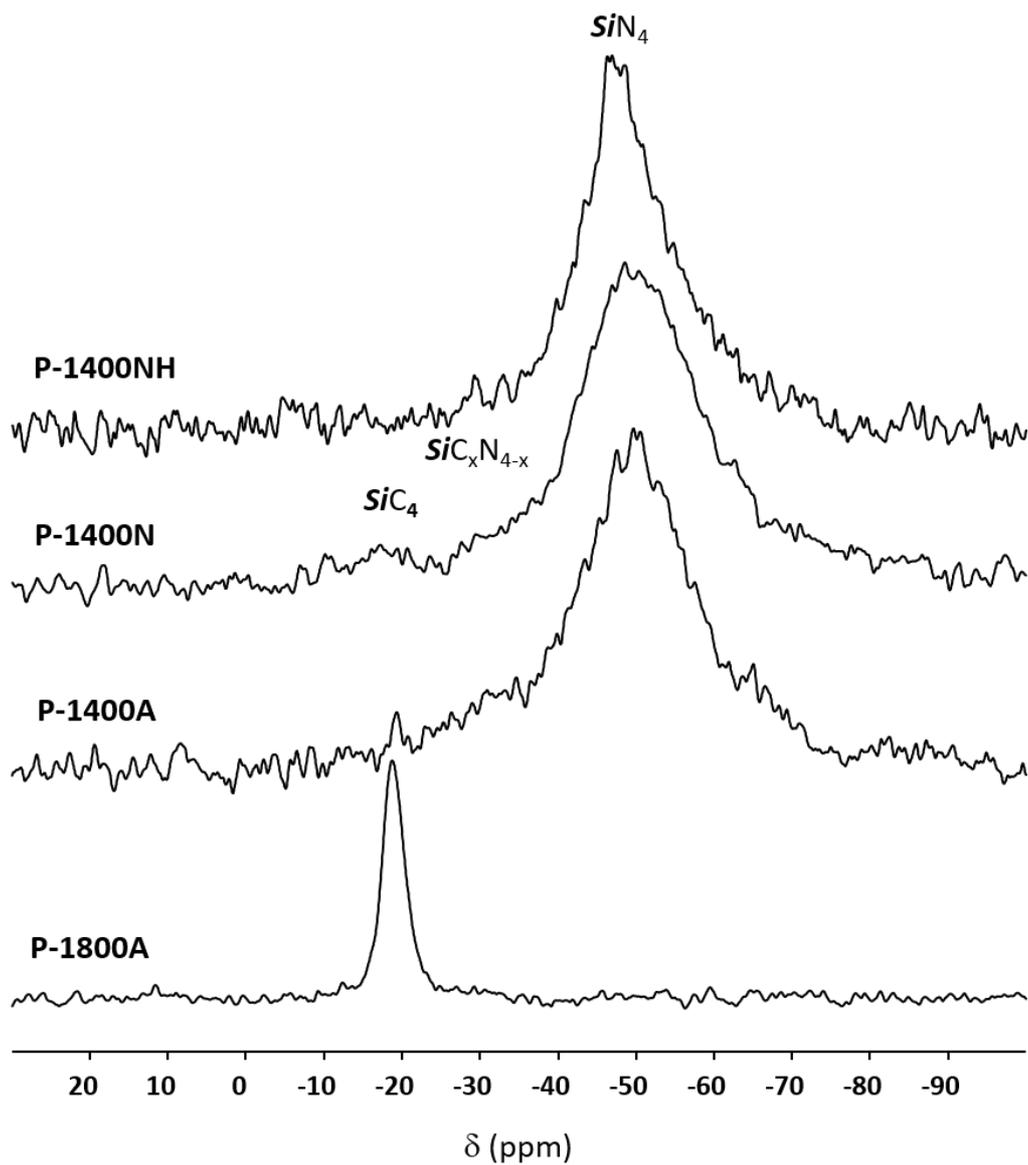


Figure S5: experimental ^{29}Si CP MAS NMR for the P-1400NH, P-1400N, P-1400A and P-1800A samples at 7 T.

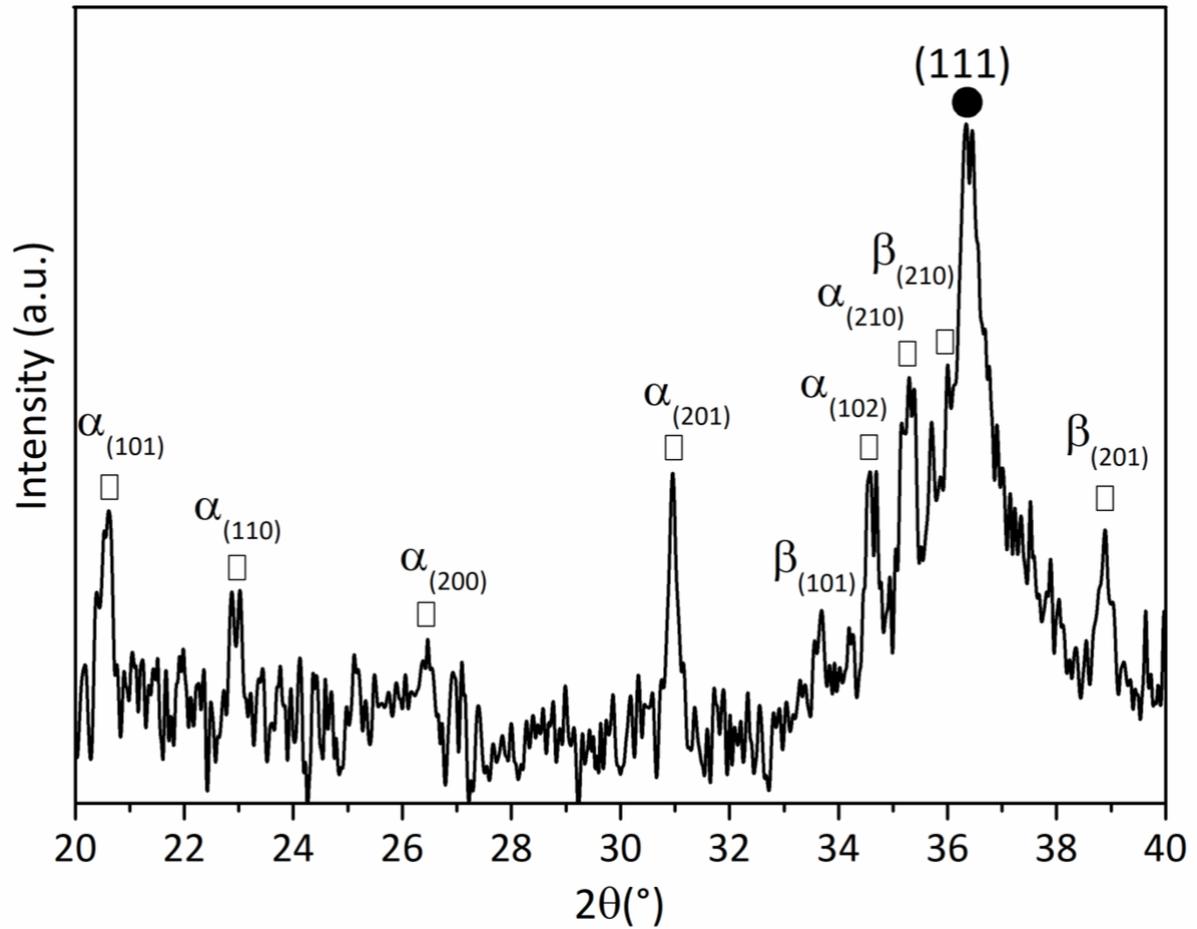


Figure S6: identification of the α and β - Si_3N_4 phases in the XRD pattern of P-1500N.

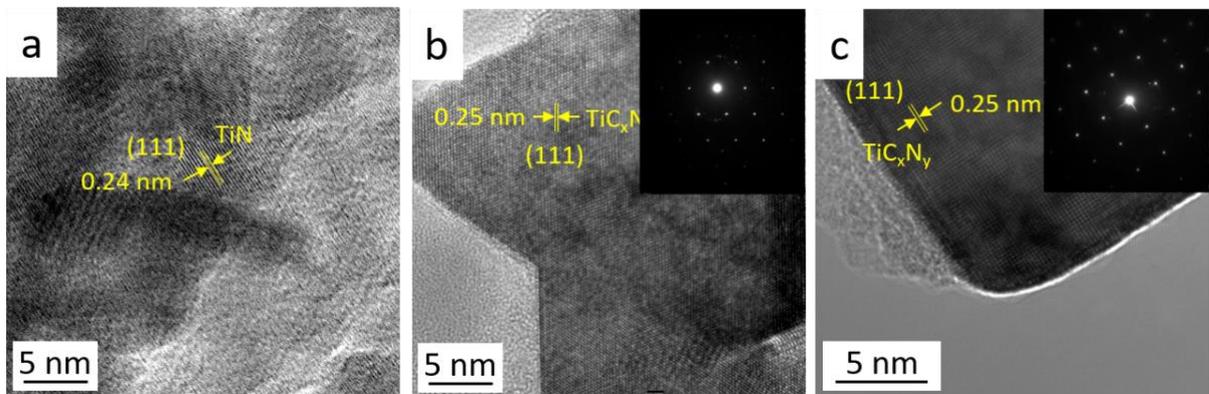


Figure S7: HRTEM micrographs of P-1500NH (a), P-1500N (b) and P-1500A (c) samples with FFT images obtained from HRTEM images of P-1500N (b) and P-1500A (c) samples as insets.

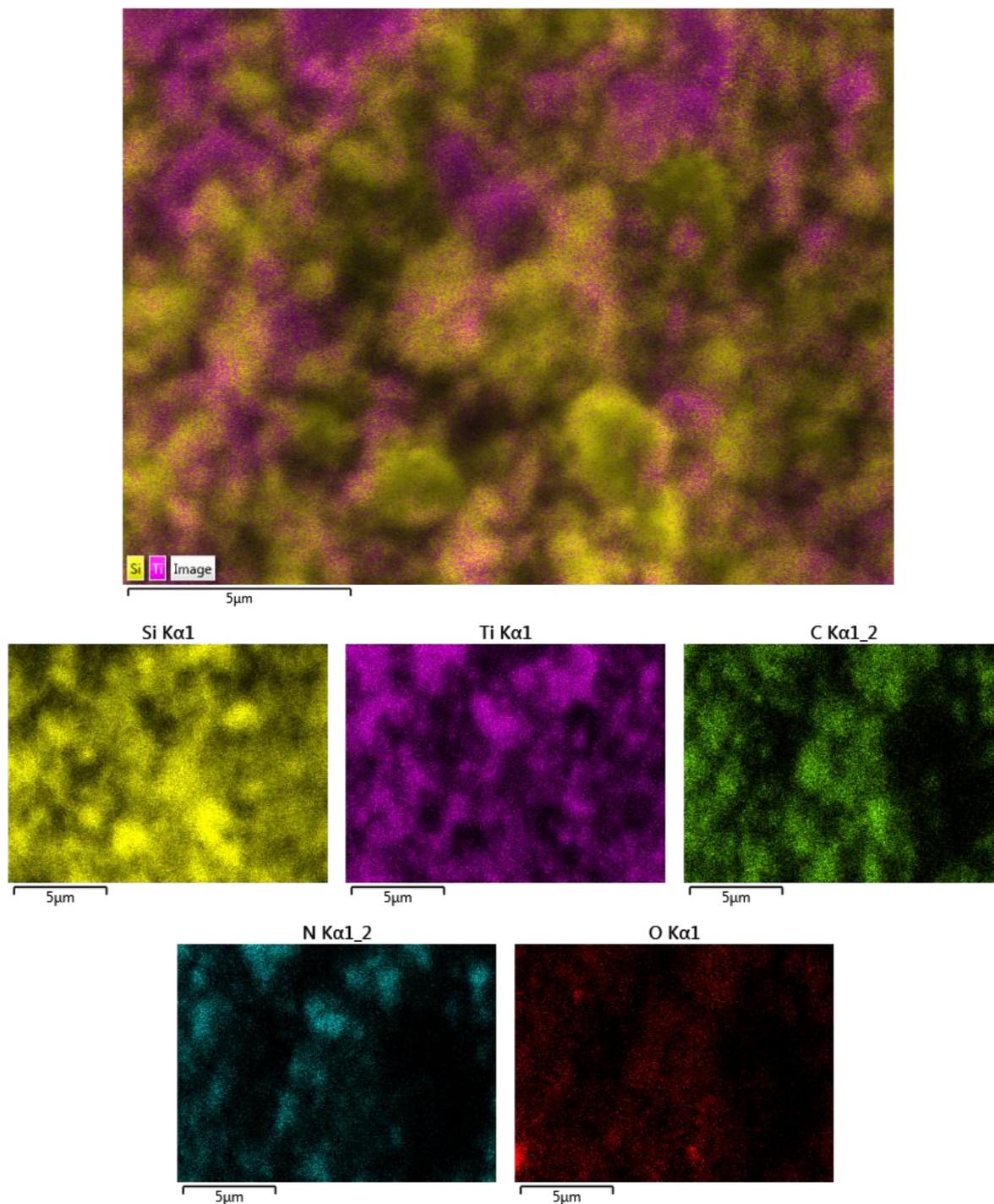


Figure S8: EDS mapping of the P-1600A sample.

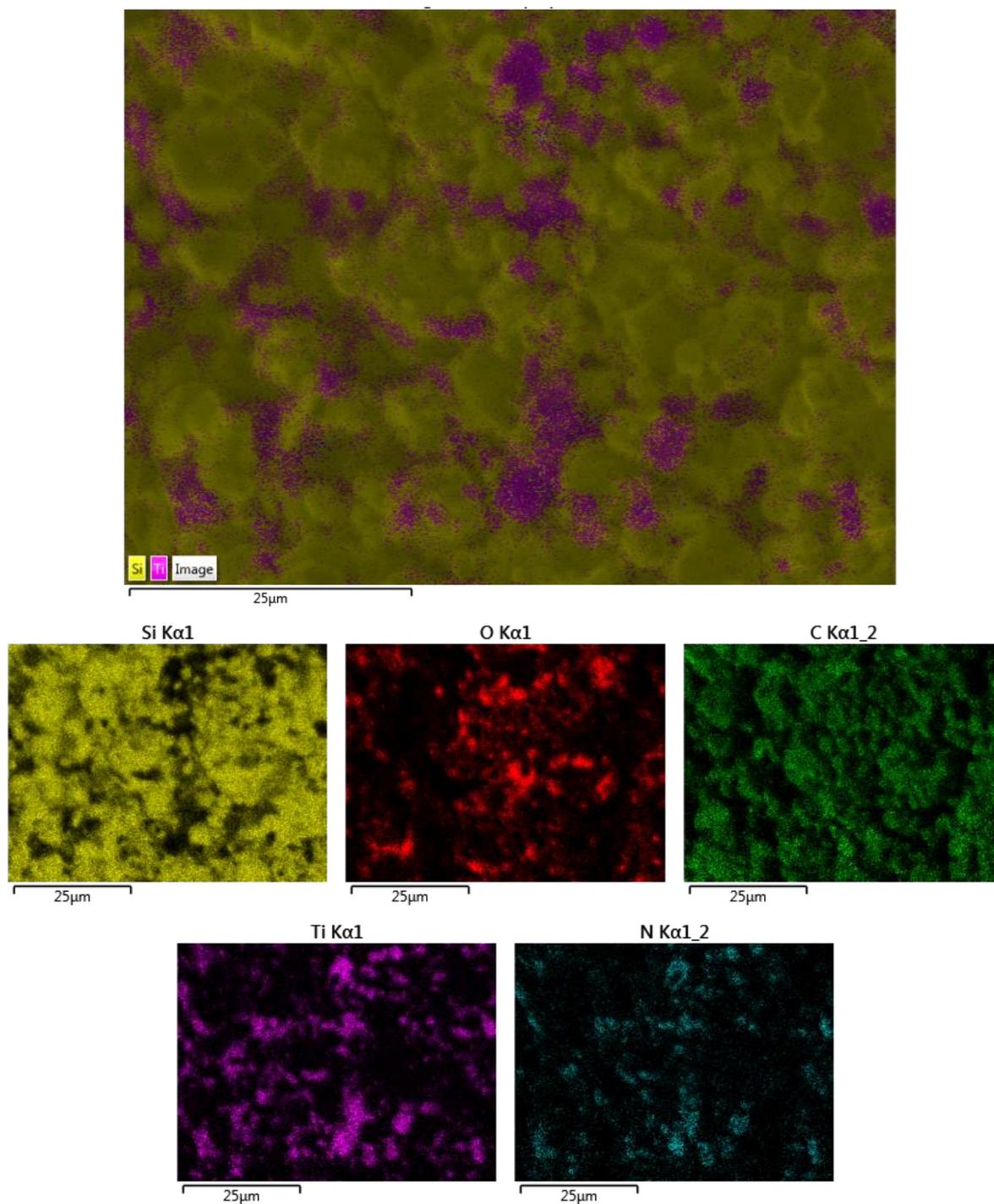


Figure S9: EDS mapping of the P-1800A sample.