

Preservation of Money Art: Material Degradation and Evaluation of Biopolymer Coatings as Protective Strategies

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The following legend summarises the terminology adopted for the assignment of the main FTIR bands discussed throughout the Supplementary Materials:

- ν : stretching
- δ : bending
- ρ : rocking
- γ : wagging
- τ : twisting
- ip: in-plane vibration
- op: out-of-plane vibration
- (+): increase in band intensity after ageing
- (-): decrease in band intensity after ageing
- (*): band shift after ageing
- am = amide

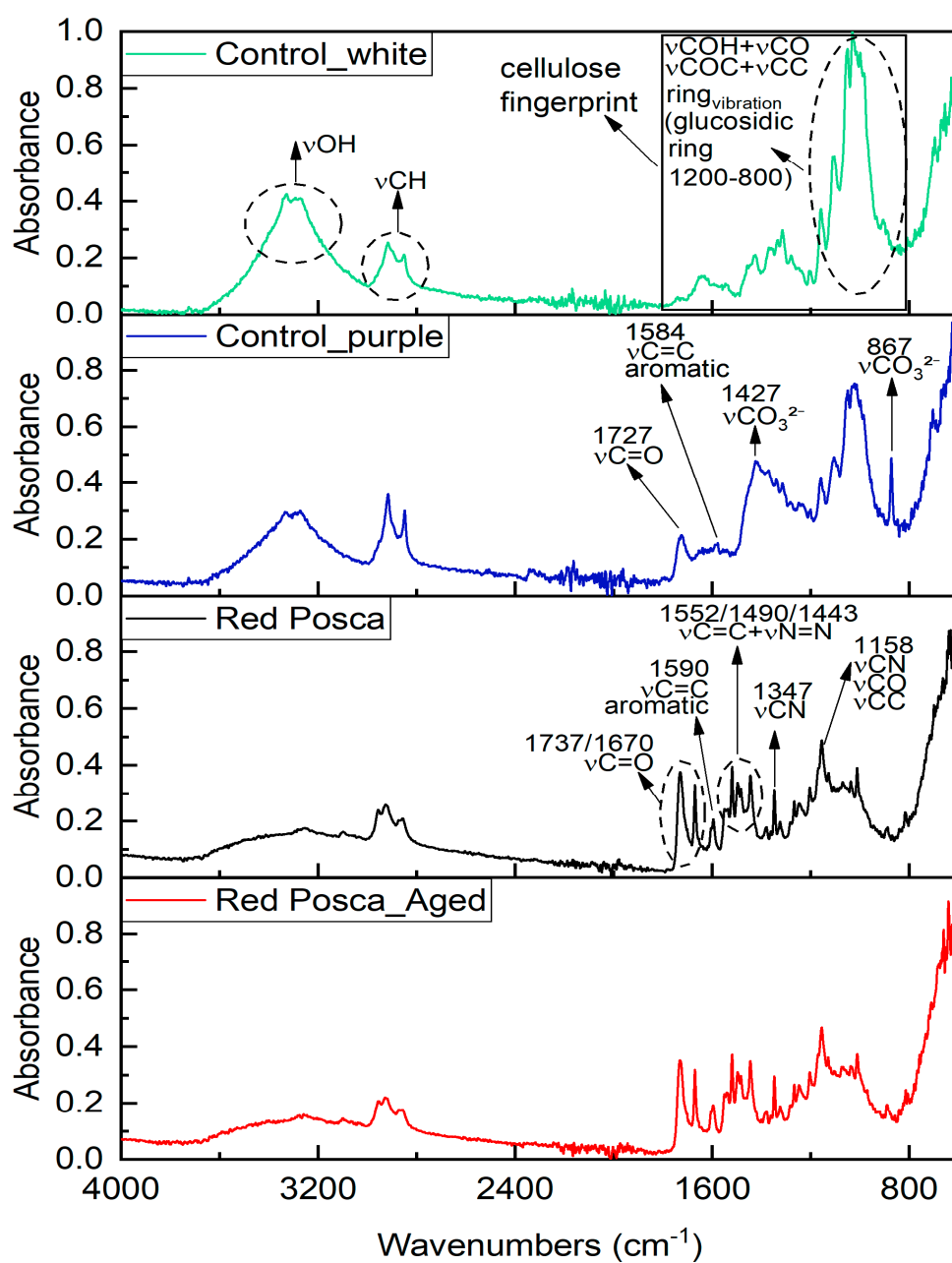


Figure S1. FTIR spectra collected on red Posca applied to both non-aged and aged areas. Applications are compared with both white and purple substrates, as they were applied to regions with distinct characteristics (white for the non-aged side and purple for the aged side).

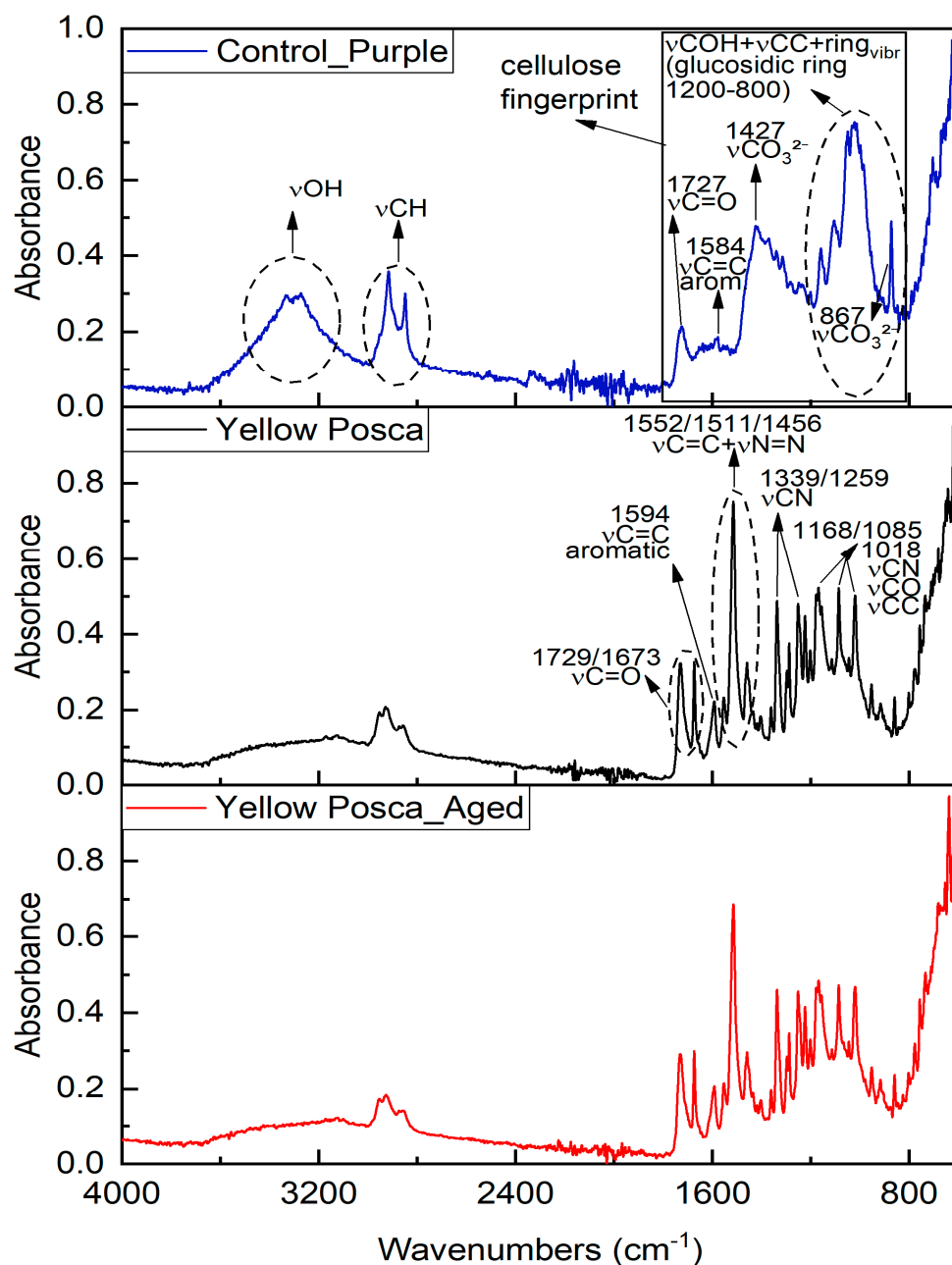


Figure S2. FTIR spectra collected on yellow Posca applied to both non-aged and aged areas. Applications are compared with purple substrate, as they were applied to regions same control characteristics.

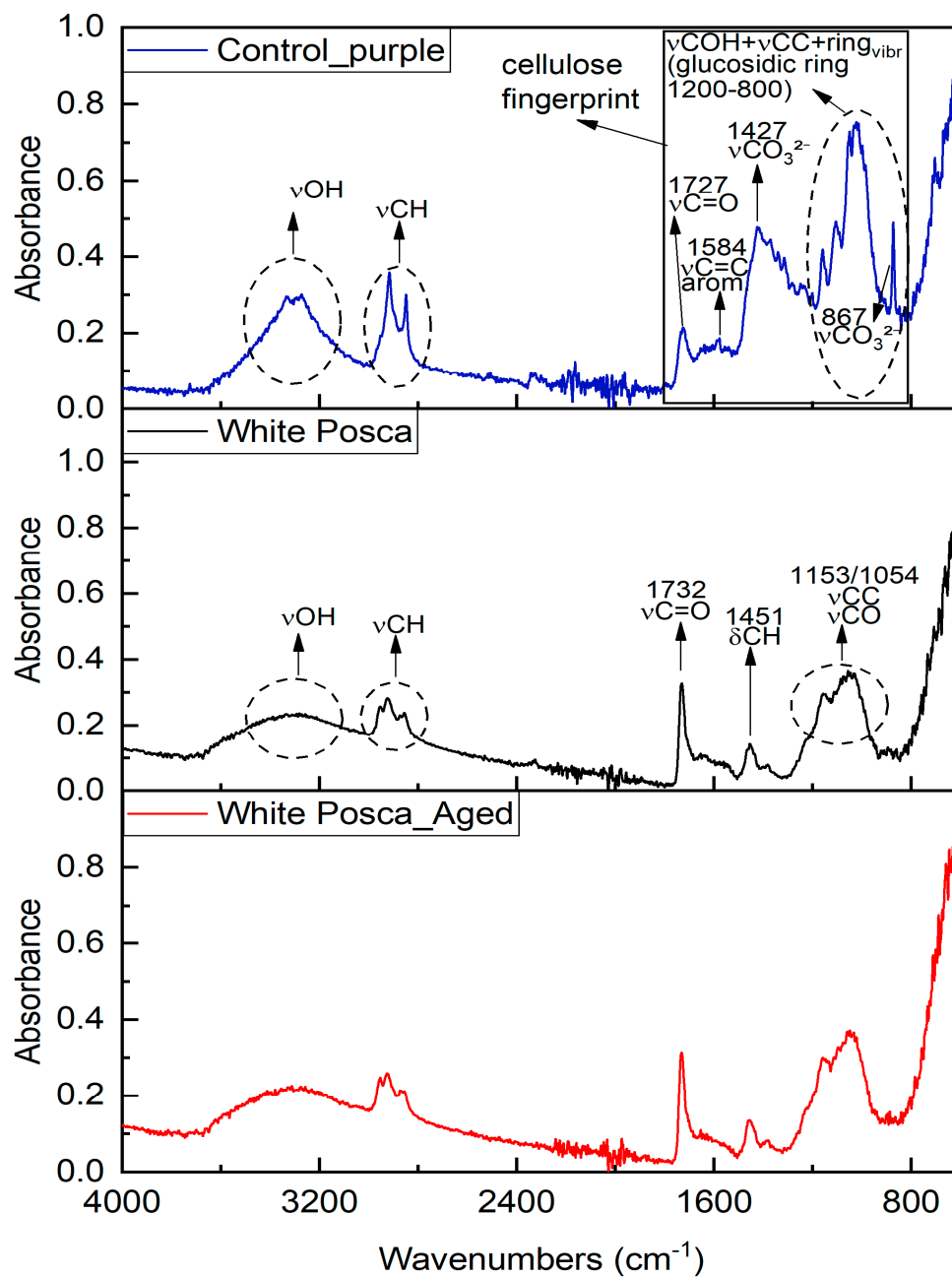


Figure S3. FTIR spectra collected on white Posca applied to both non-aged and aged areas. Applications are compared with purple substrate, as they were applied to regions same control characteristics.

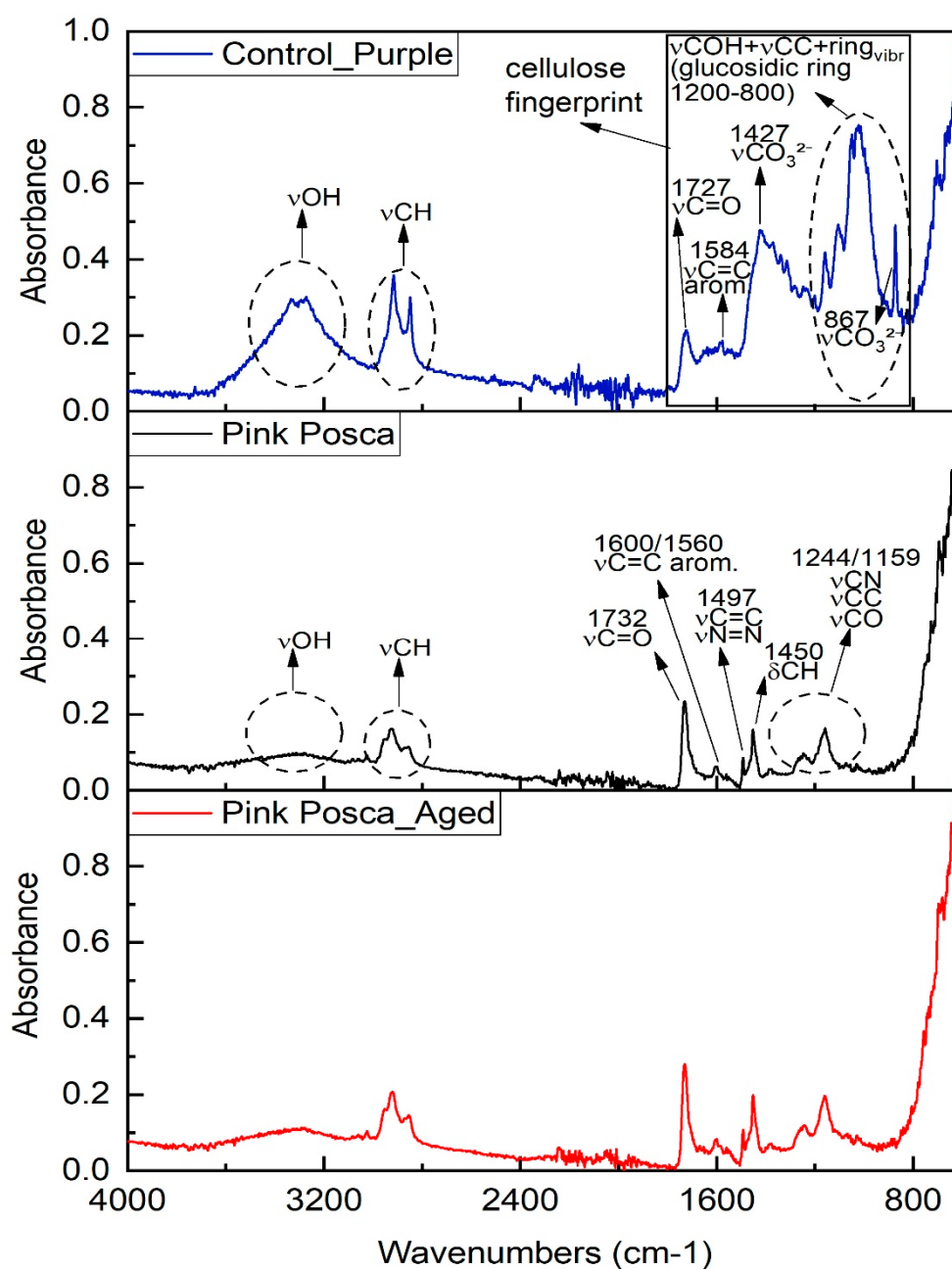


Figure S4. FTIR spectra collected on pink Posca applied to both non-aged and aged areas. Applications are compared with purple substrate, as they were applied to regions same control characteristics.

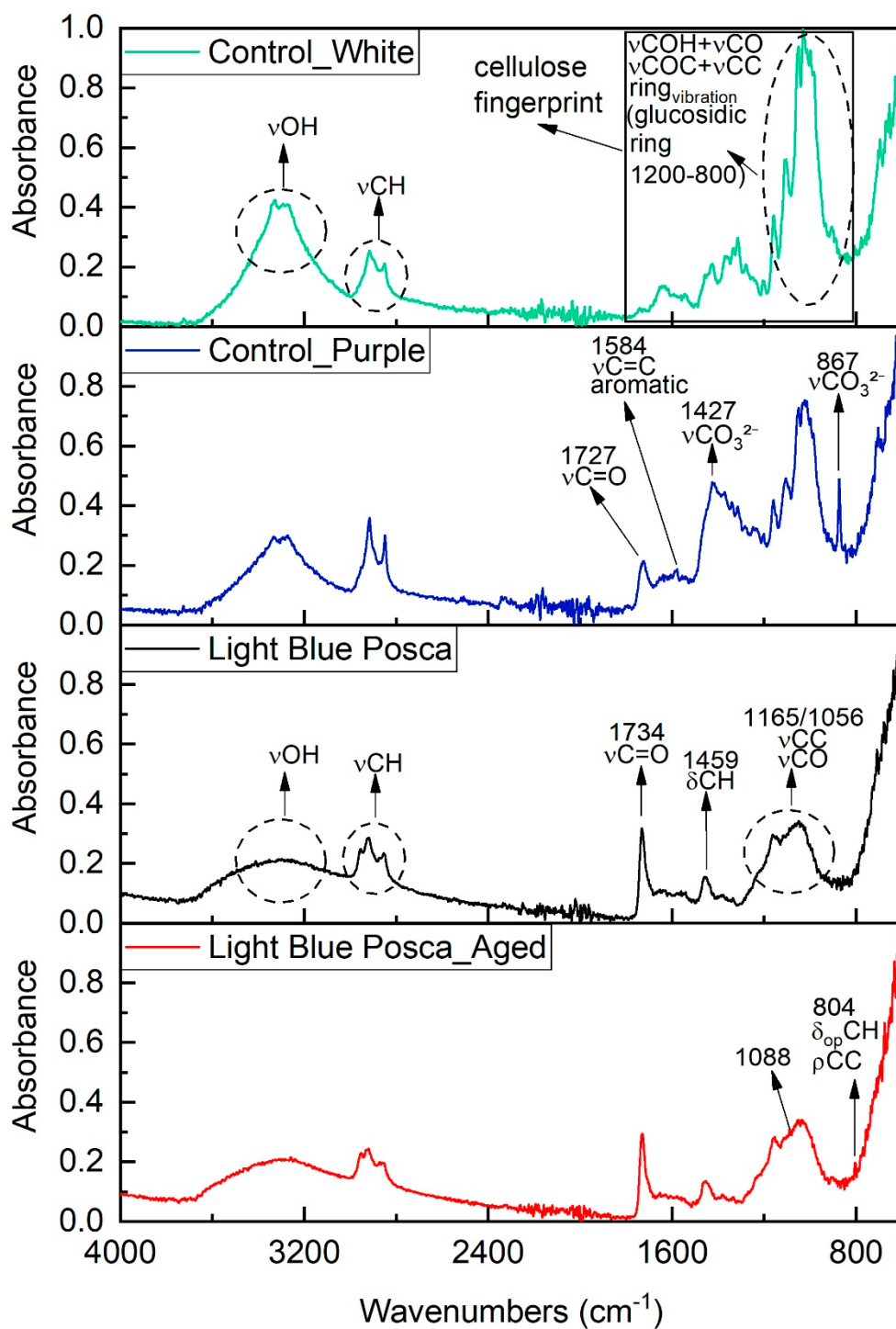


Figure S5. FTIR spectra collected on light blue Posca applied to both non-aged and aged areas. Applications are compared with both white and purple substrates, as they were applied to regions with distinct characteristics (white for the non-aged side and purple for the aged side).

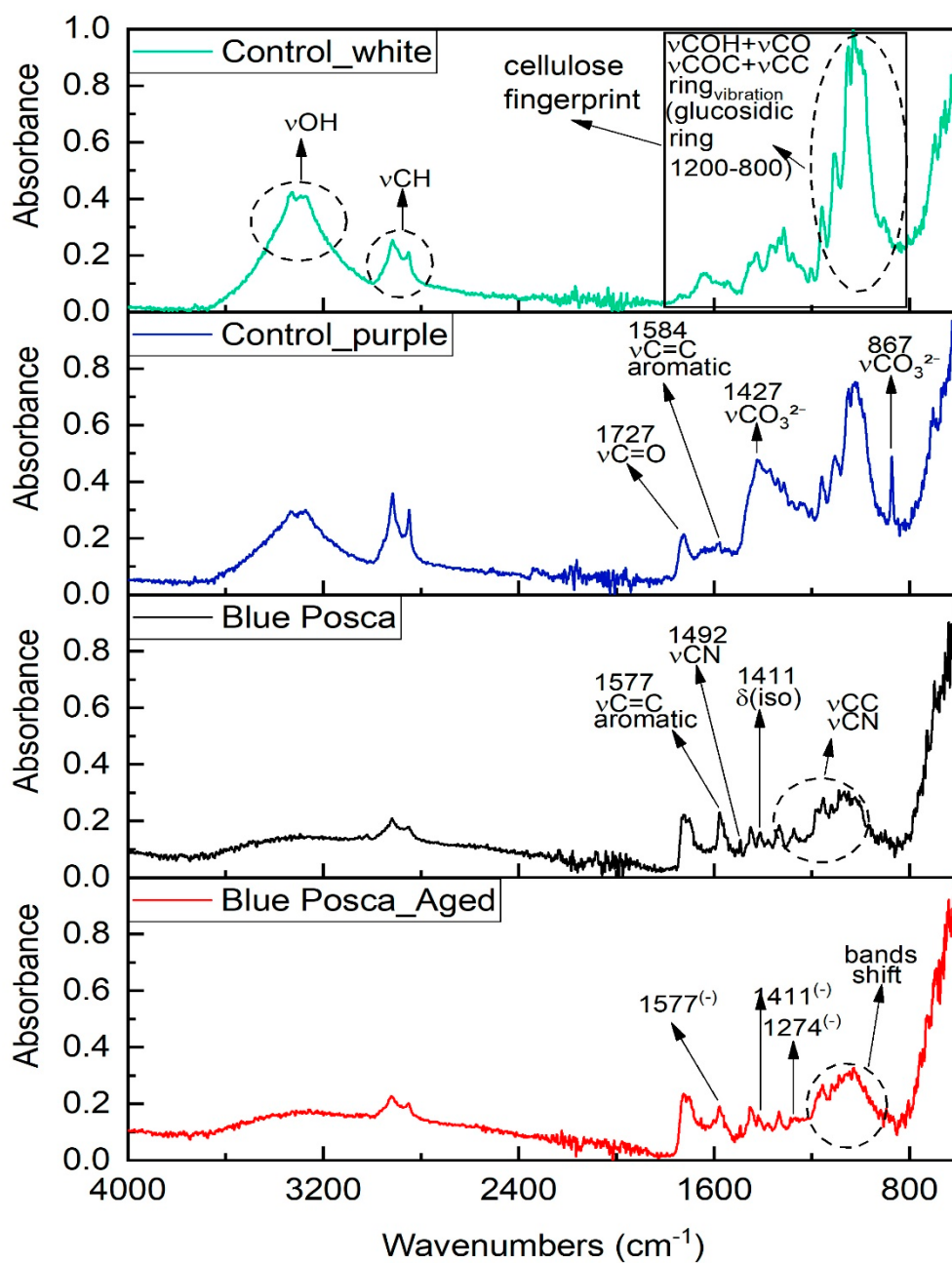


Figure S6. FTIR spectra collected on blue Posca applied to both non-aged and aged areas. Applications are compared with both white and purple substrates, as they were applied to regions with distinct characteristics (white for the non-aged side and purple for the aged side).

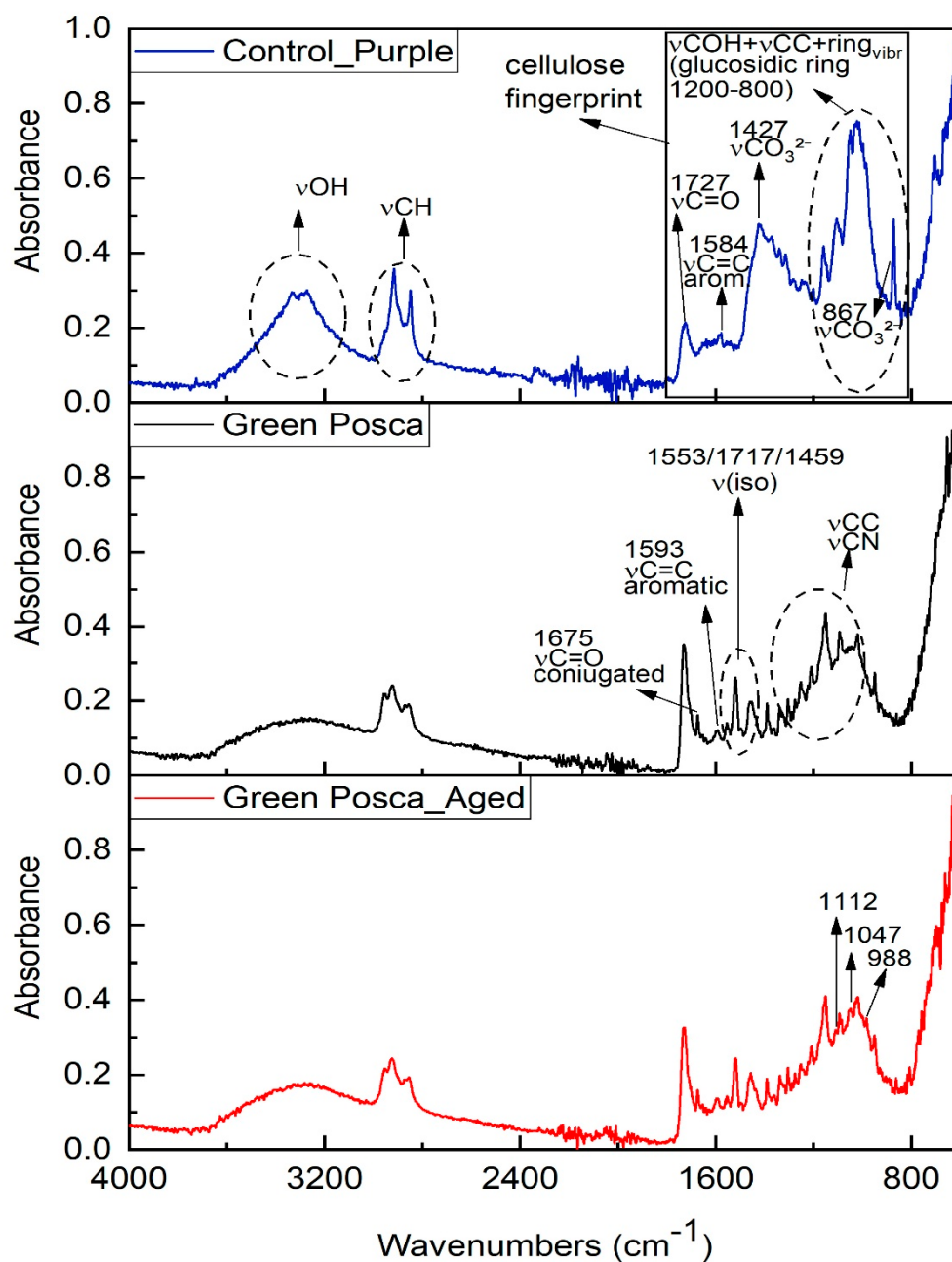


Figure S7. FTIR spectra collected on green Posca applied to both non-aged and aged areas. Applications are compared with purple substrates, as they were applied to regions same control characteristics.

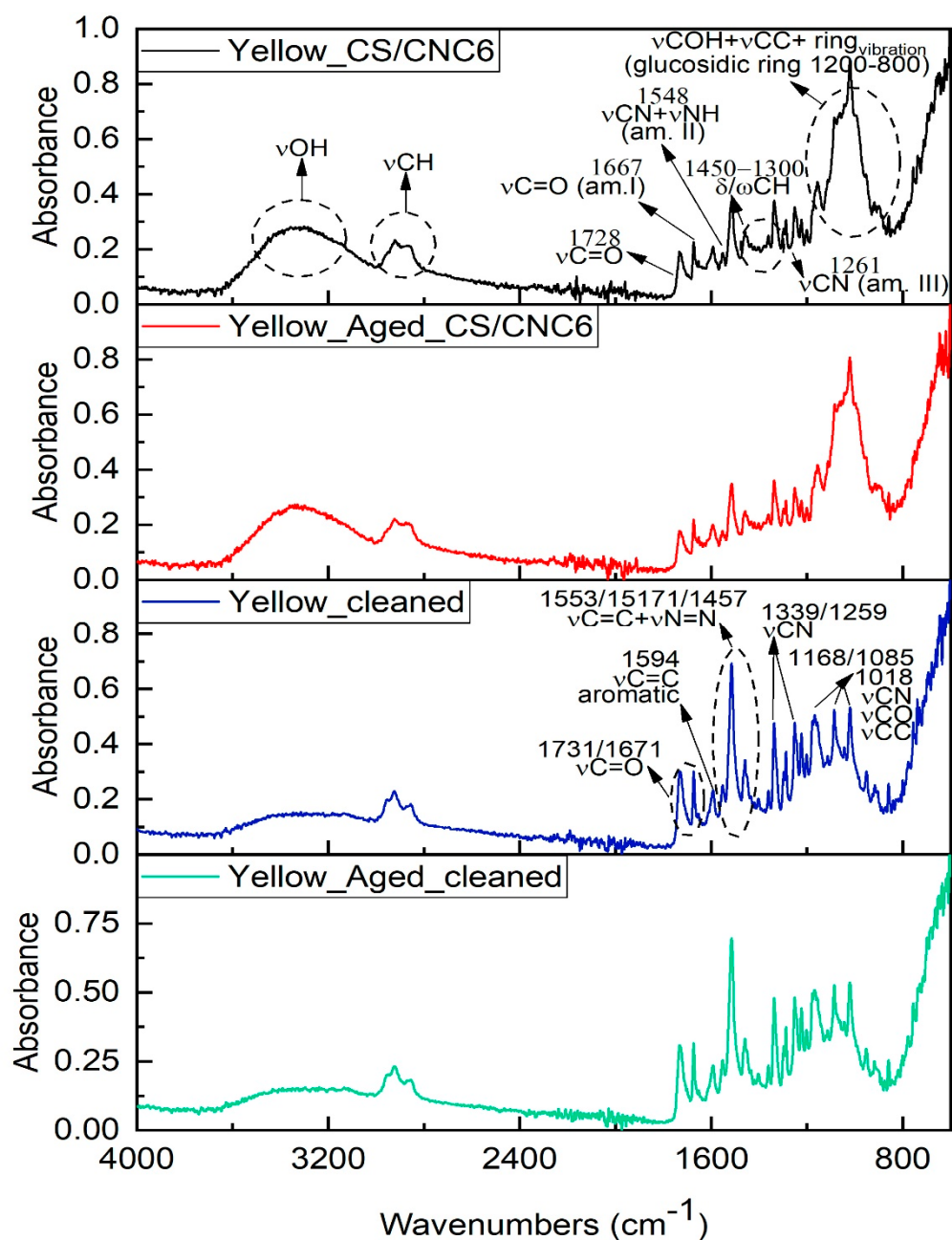


Figure S8. FTIR spectra collected on yellow Posca after CS/CNC6 coating application (black line), after ageing process (red line), and after cleaning test on both non-aged (blue line) and aged (green line) coating.

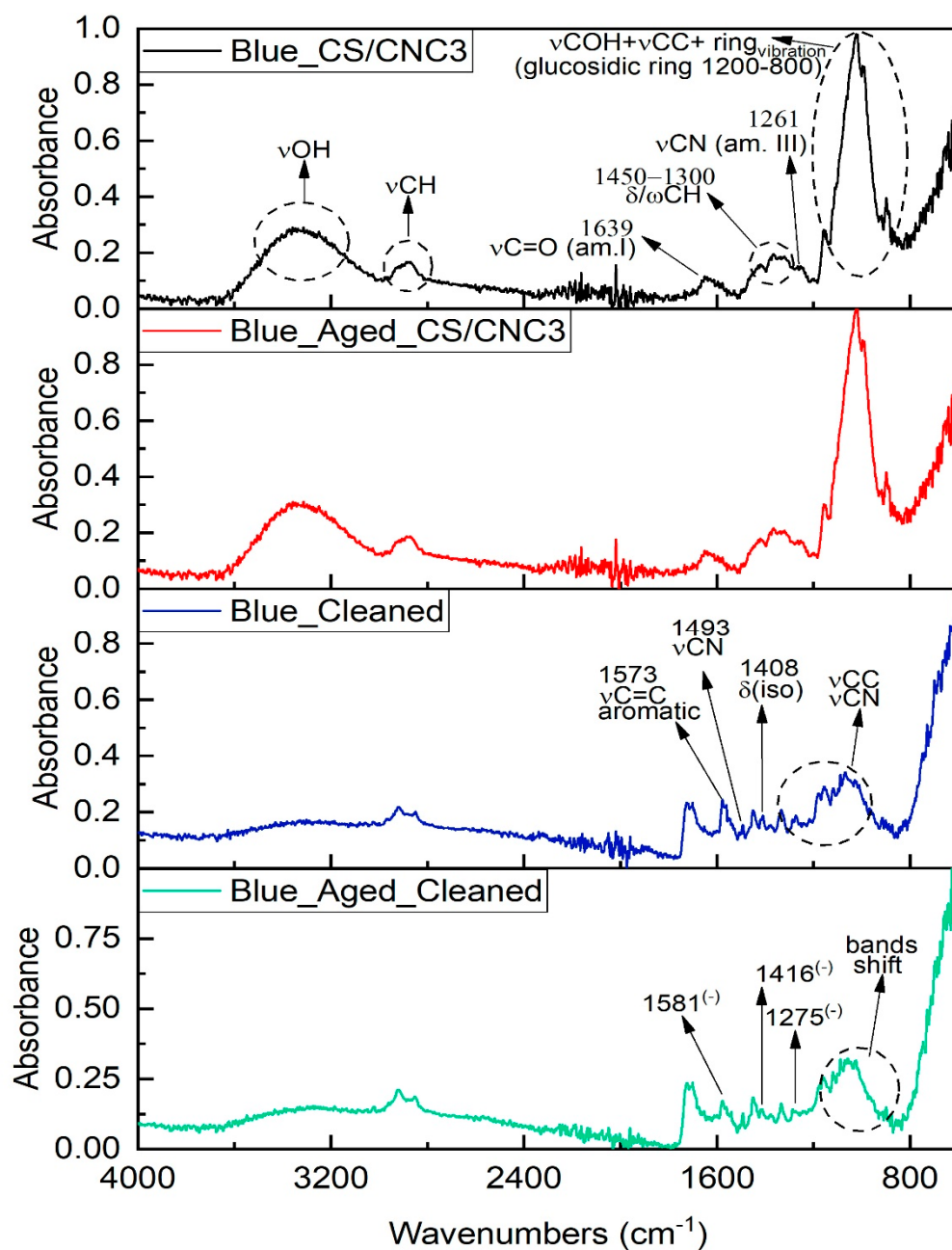


Figure S9. FTIR spectra collected on blue Posca after CS/CNC3 coating application (black line), after ageing process (red line), and after cleaning test on both non-aged (blue line) and aged (green line) coating.

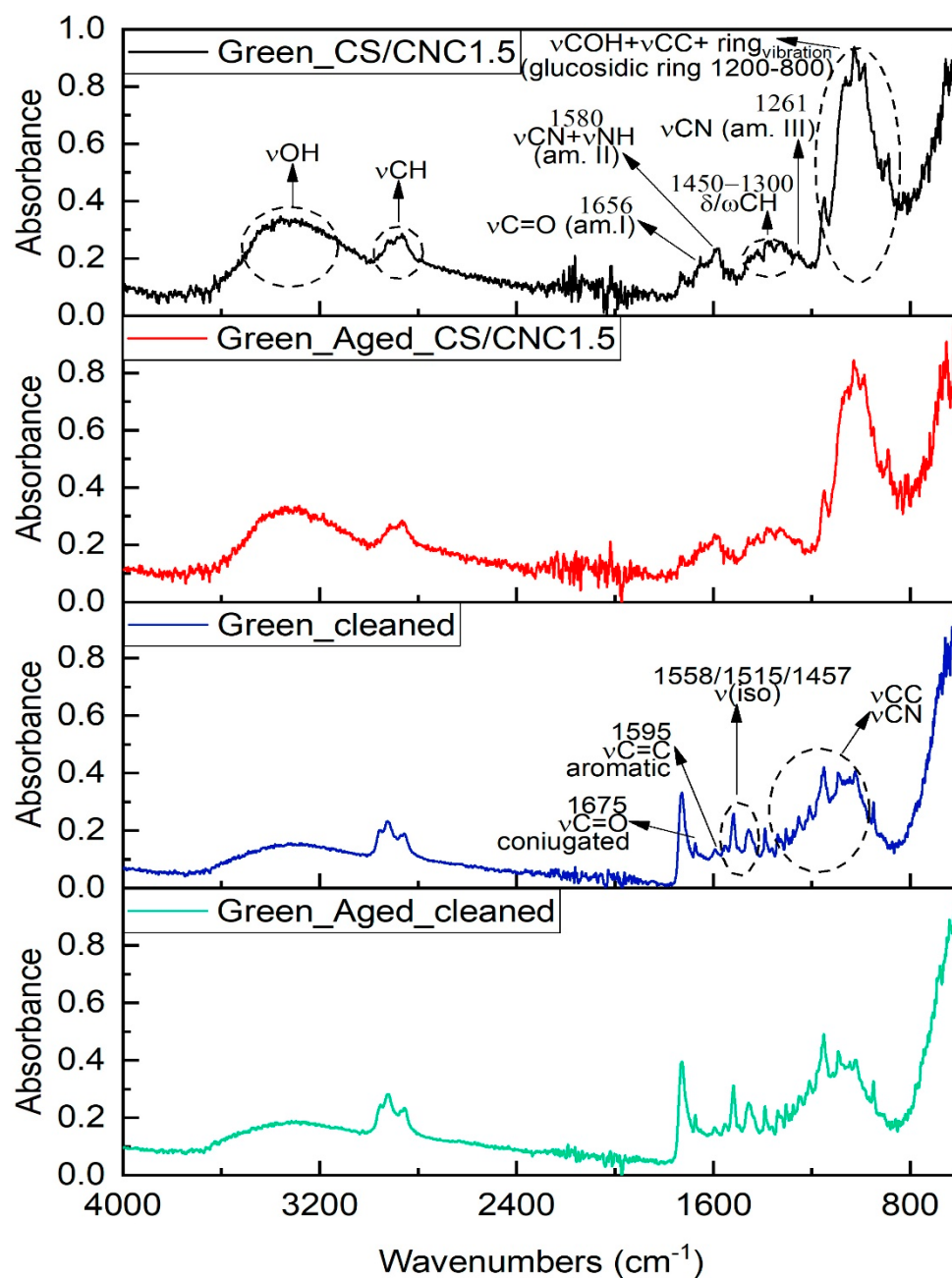


Figure S10. FTIR spectra collected on green Posca after CS/CNC1.5 coating application (black line), after ageing process (red line), and after cleaning test on both non-aged (blue line) and aged (green line) coating.

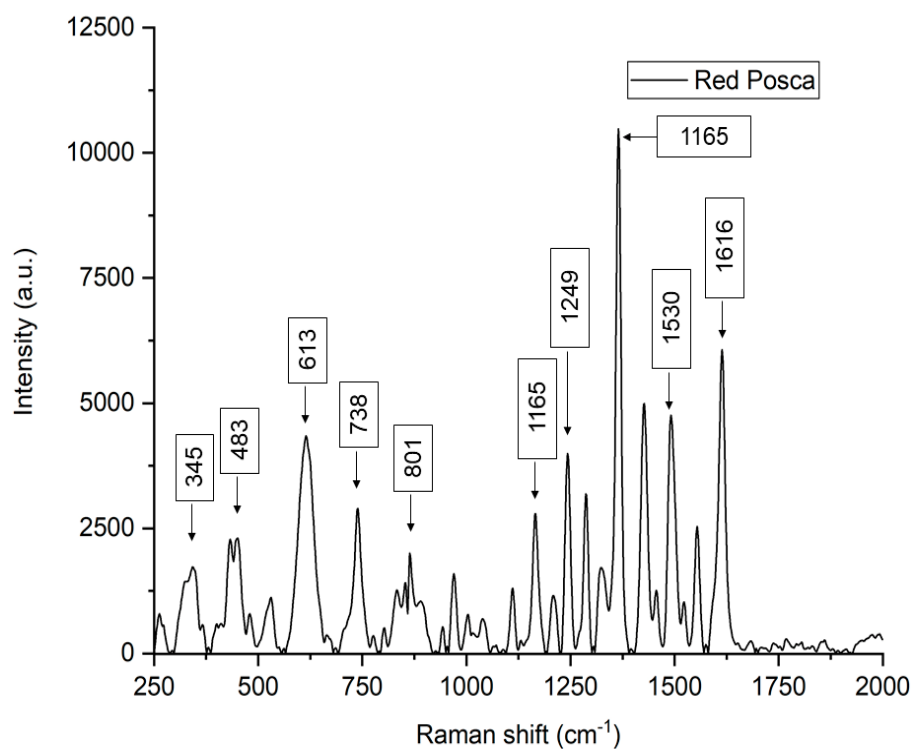


Figure S11. Raman spectrum collected on red Posca.

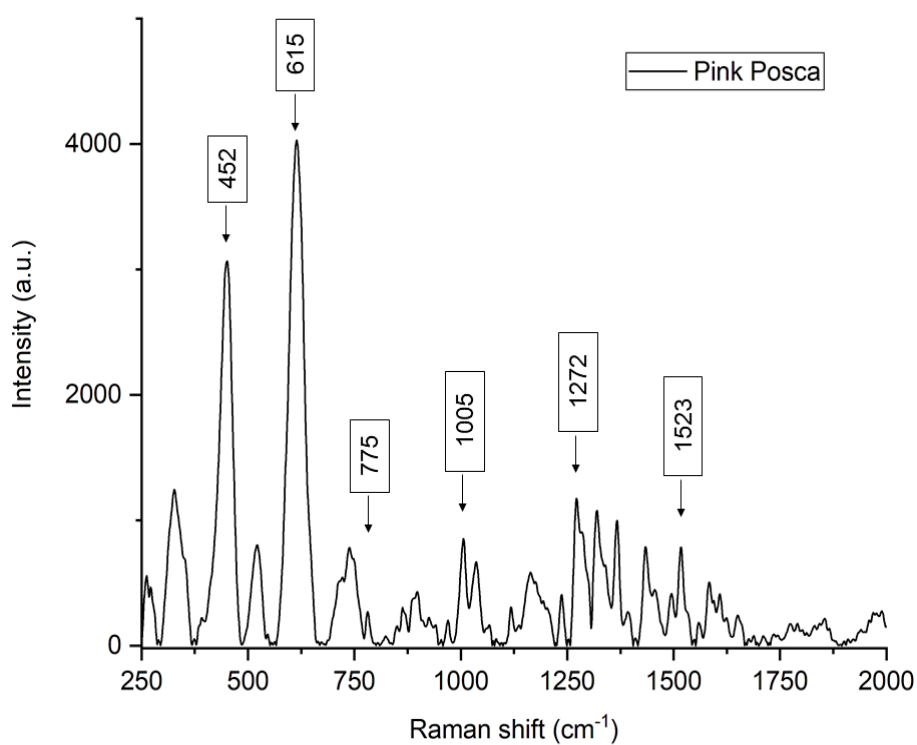


Figure S12. Raman spectrum collected on pink Posca.

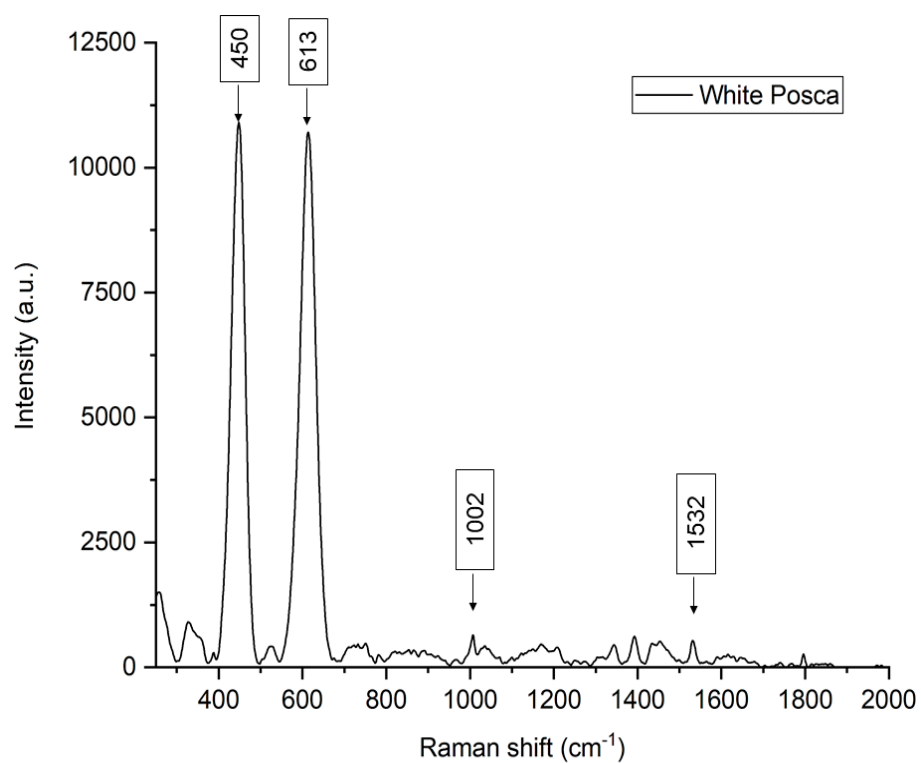


Figure S13. Raman spectrum collected on white Posca.

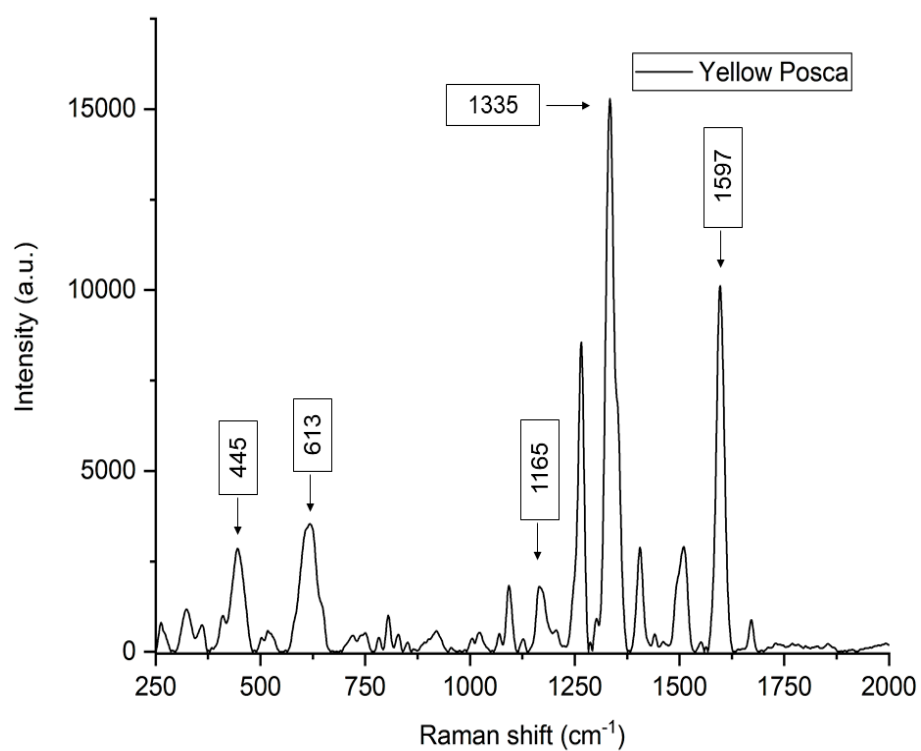


Figure S14. Raman spectrum collected on yellow Posca.

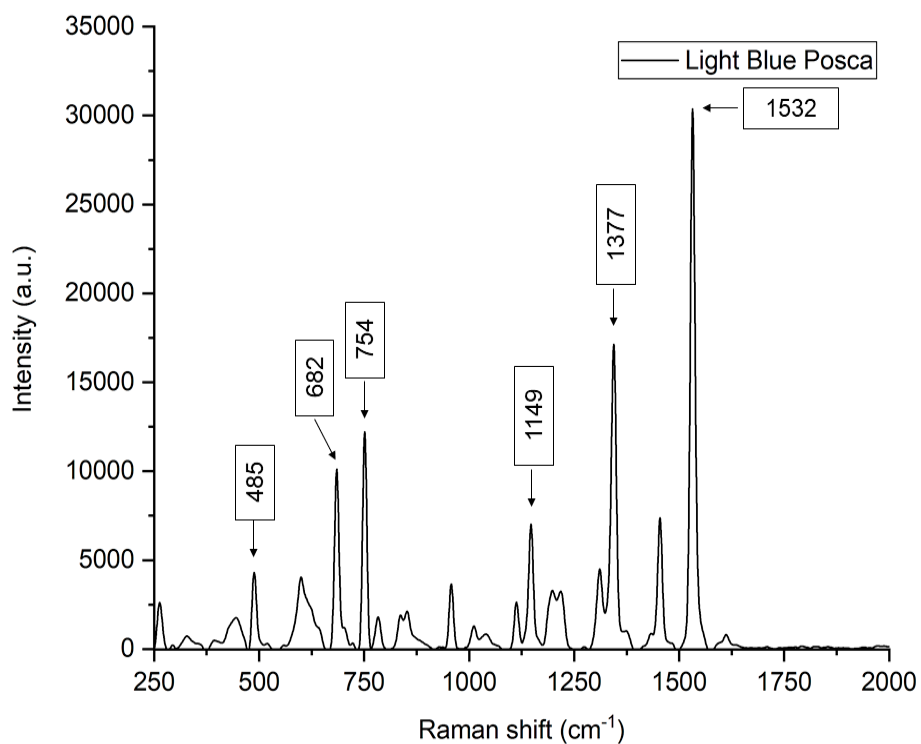


Figure S15. Raman spectrum collected on light blue Posca.

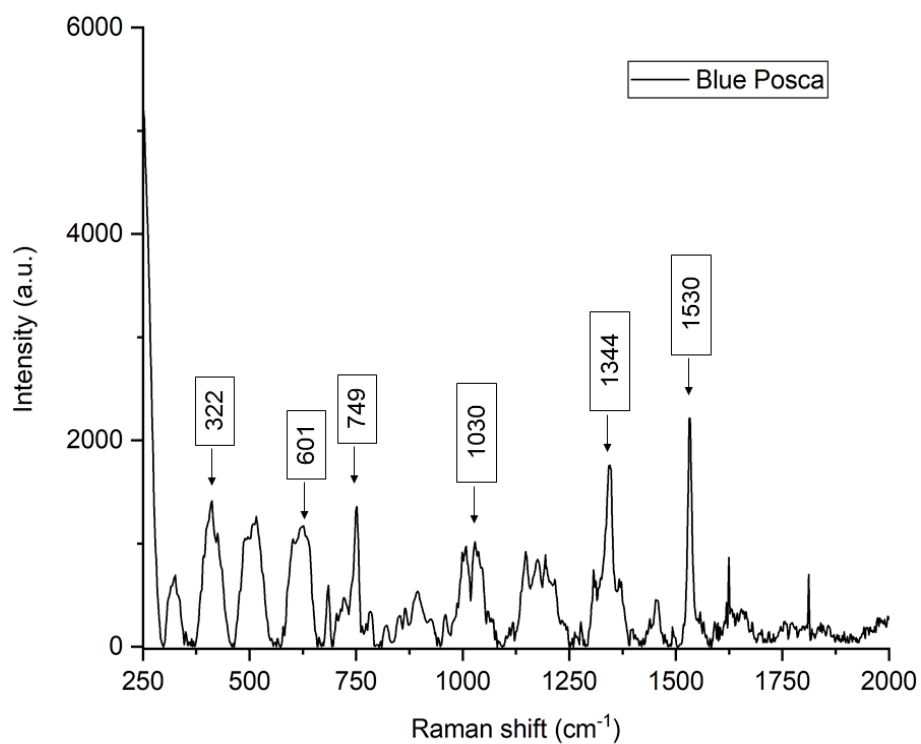


Figure S16. Raman spectrum collected on blue Posca.

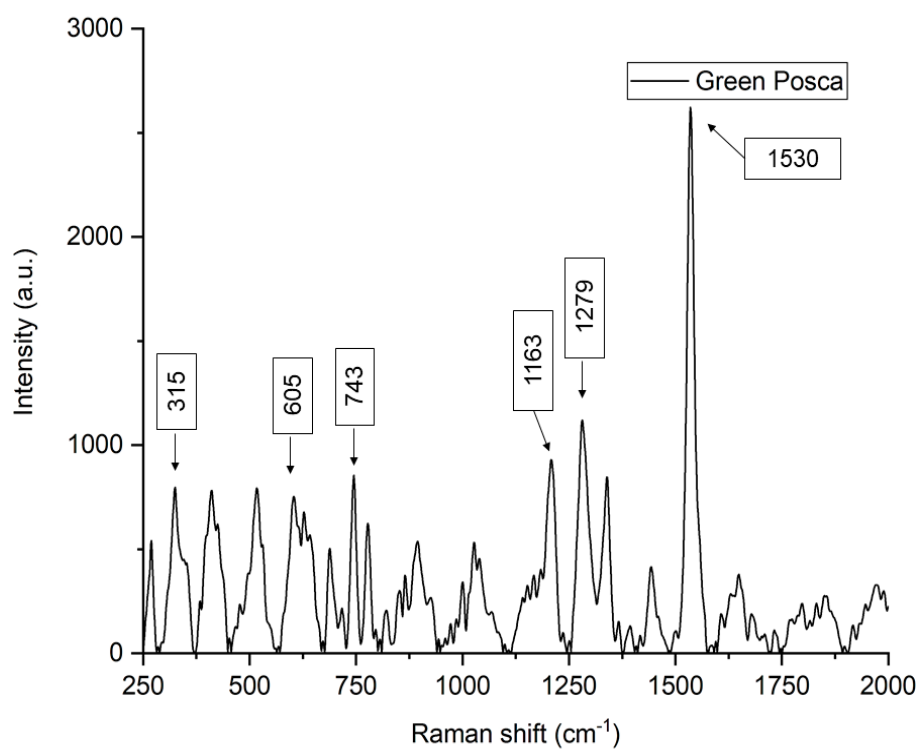


Figure S17. Raman spectrum collected on green Posca.

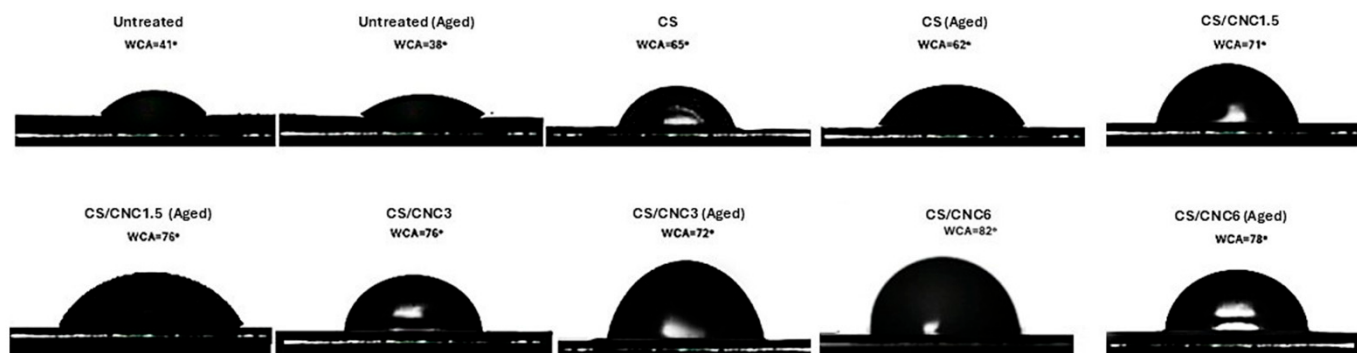


Figure S18. Static water contact angle measured on the experimental banknote before and after protective treatments. For each measurement, both non-aged and aged areas are shown.

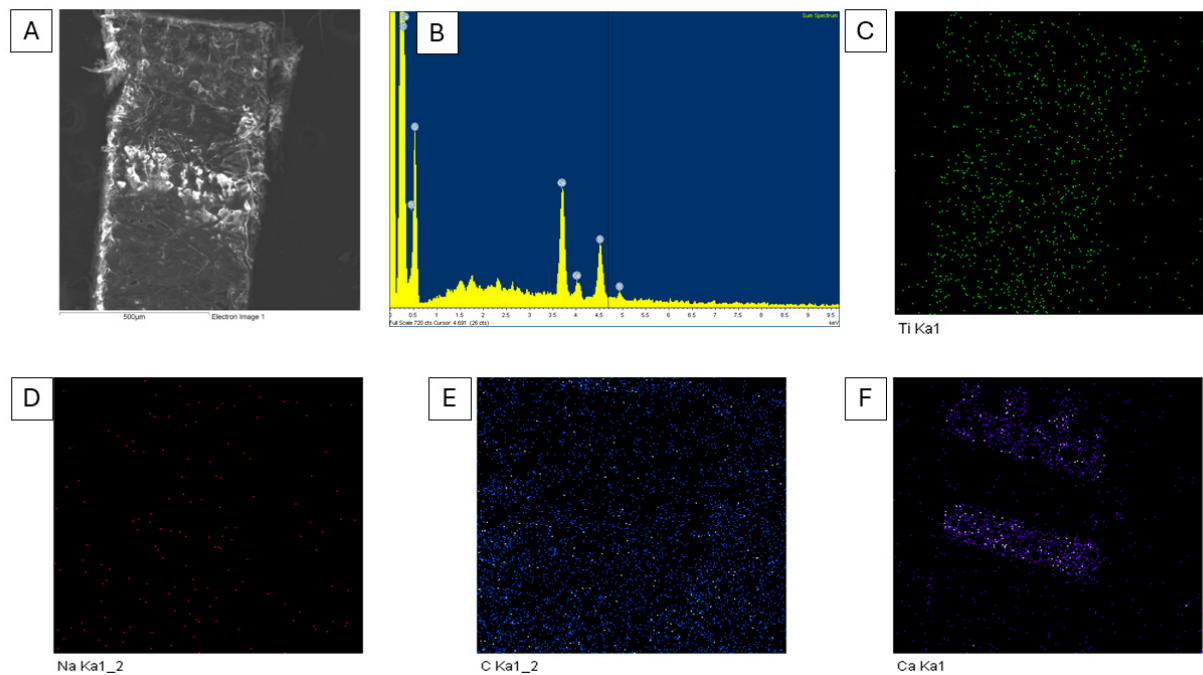


Figure S19. Black ballpoint ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E), Ca (F) distribution on sample.

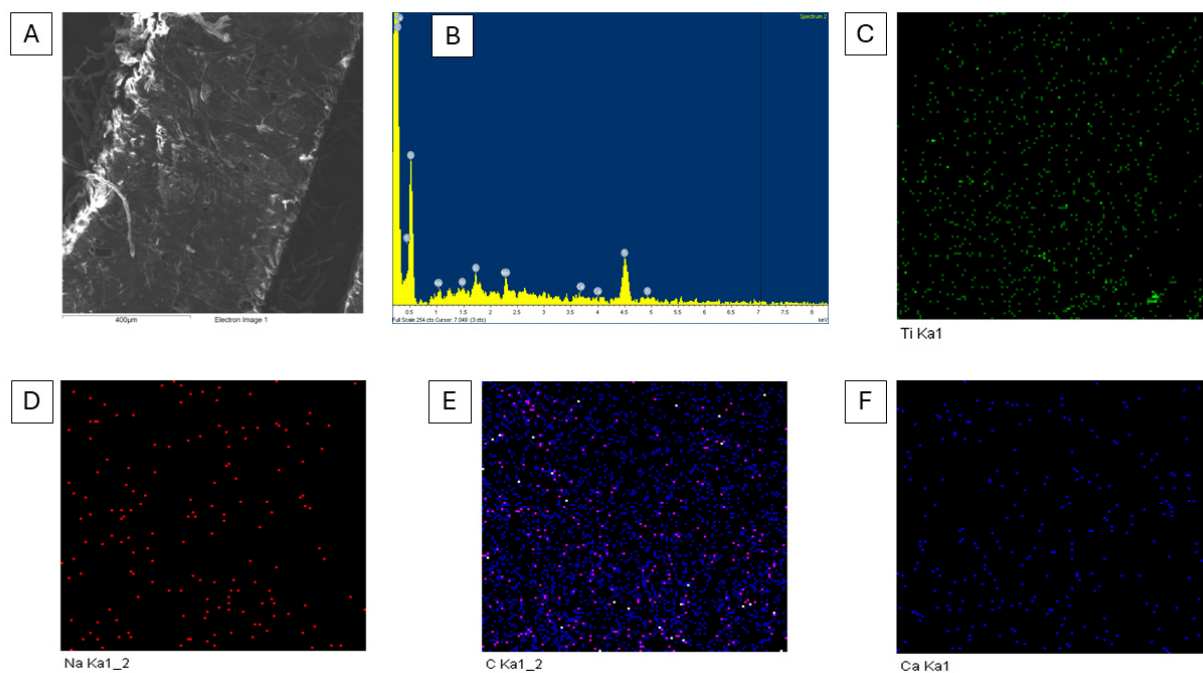


Figure S20. Black ballpoint ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E), Ca (F) distribution on sample.

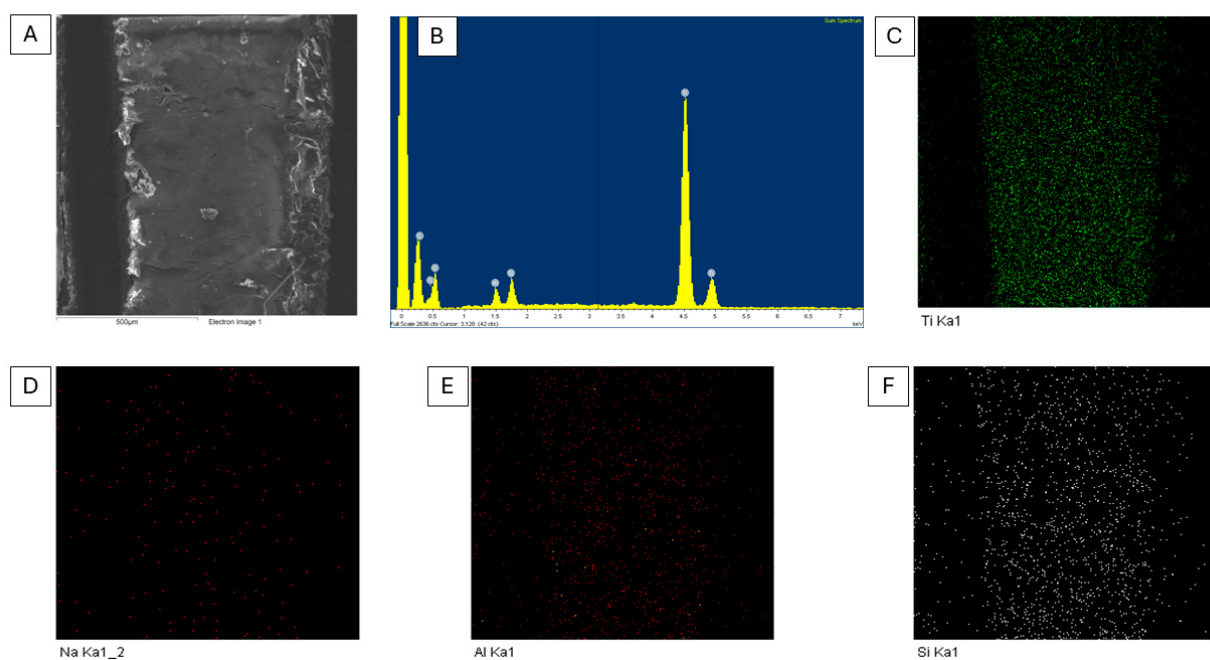


Figure S21. White Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), Al (E), Si (F) distribution on sample.

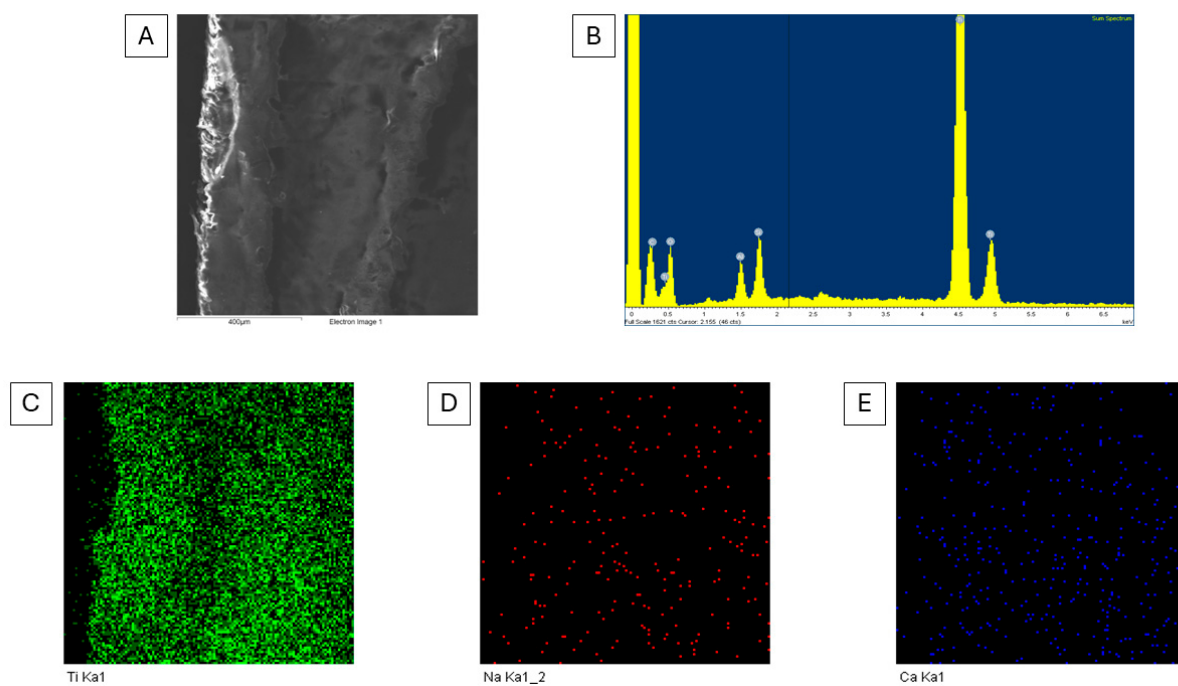


Figure S22. White Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), Ca (E) distribution on sample.

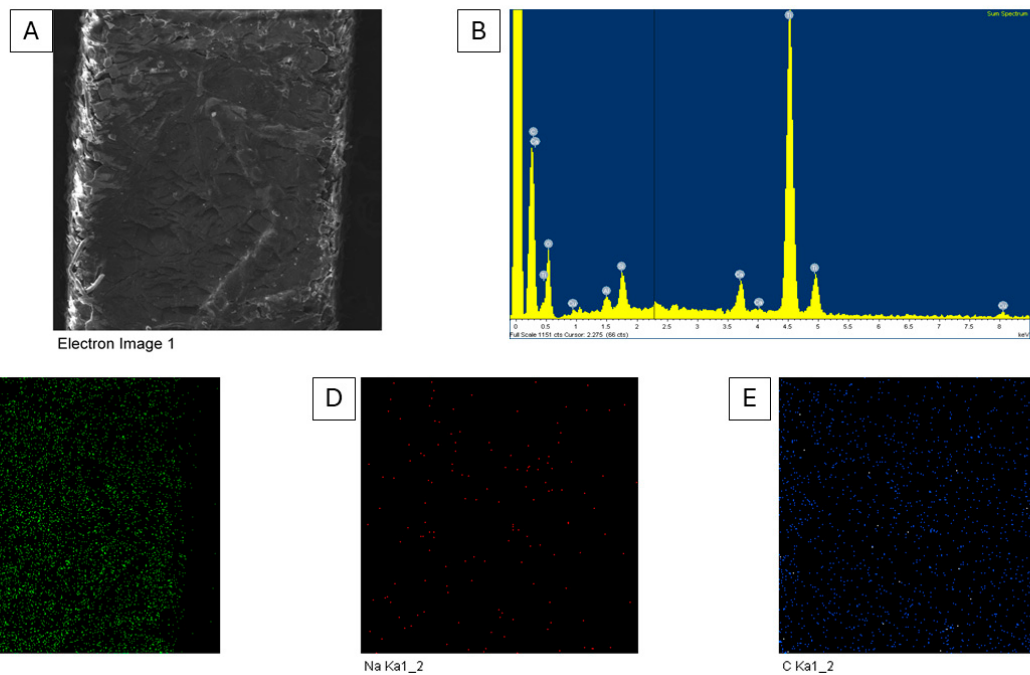


Figure S23. Blue Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E) distribution on sample.

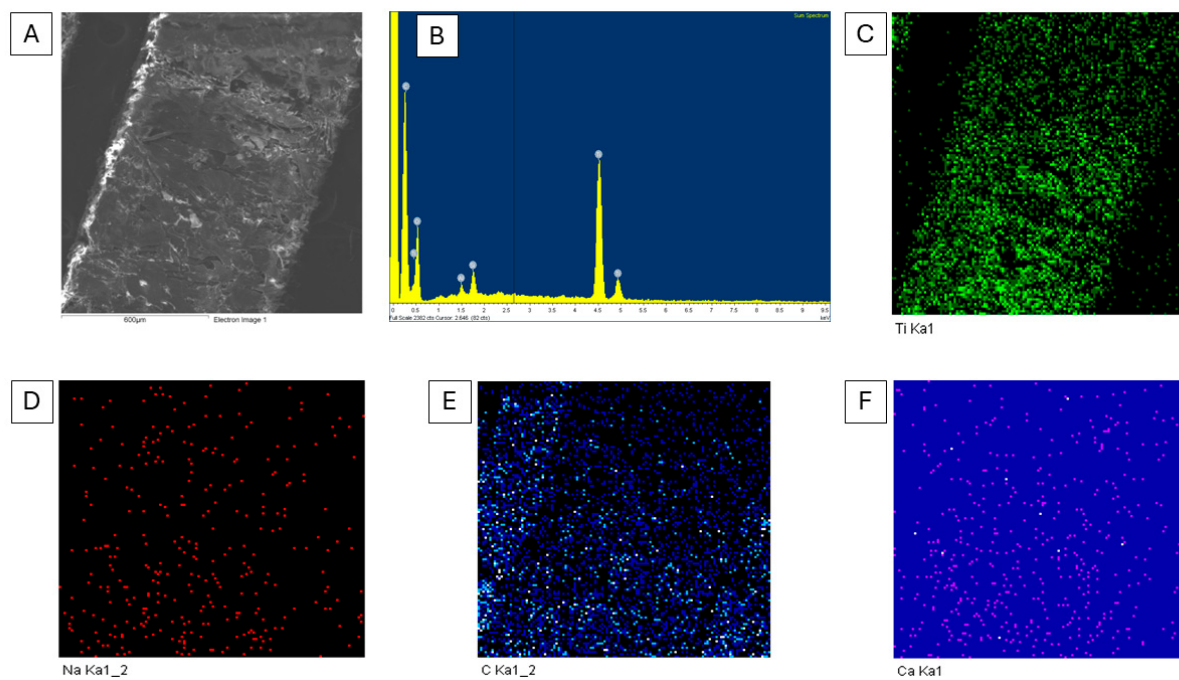


Figure S24. Blue Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E), Ca (F) distribution on sample.

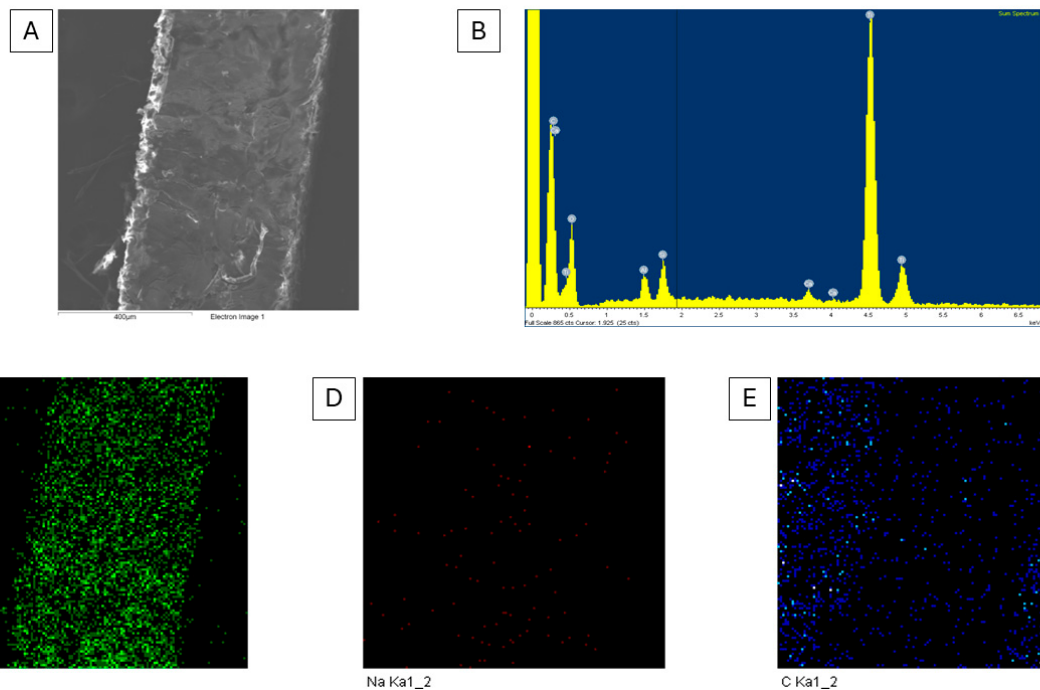


Figure S25. Light blue Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E) distribution on sample.

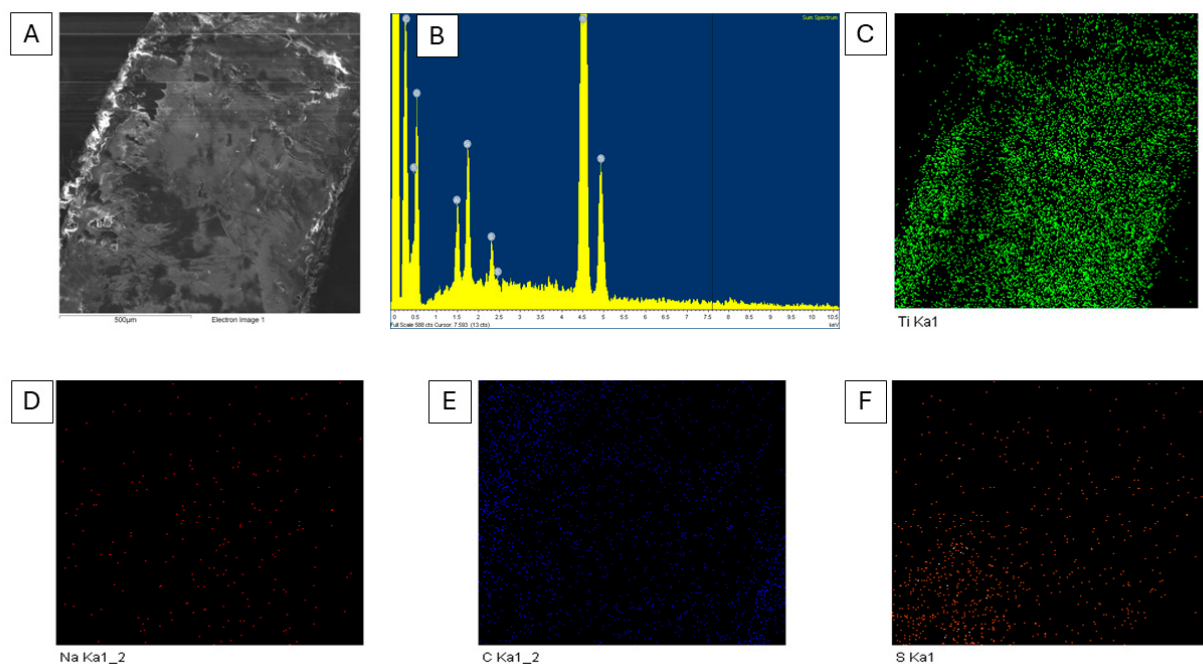


Figure S26. Light blue Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E), S (F) distribution on sample.

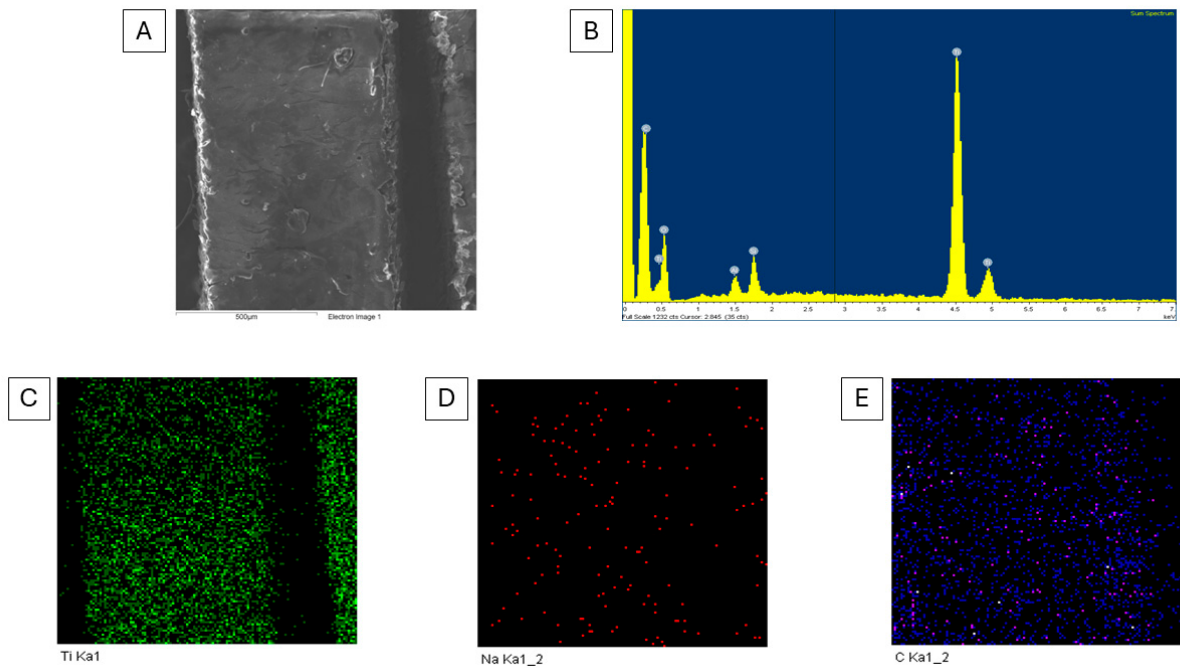


Figure S27. Yellow Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E) distribution on sample.

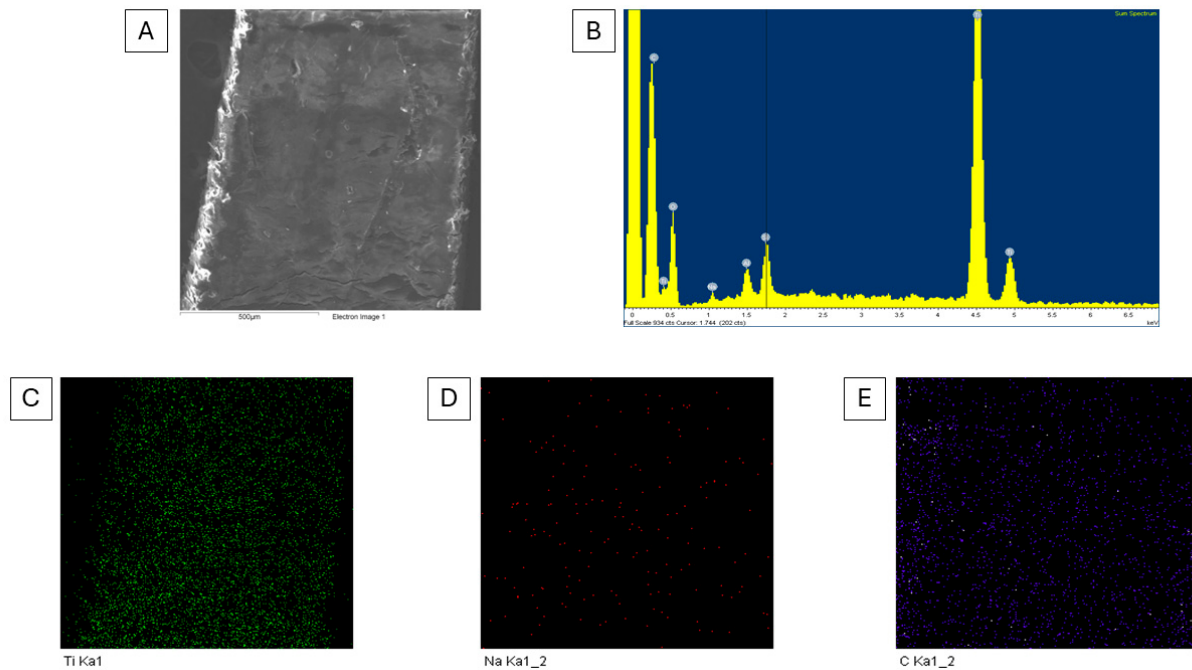


Figure S1. Yellow Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E) distribution on sample.

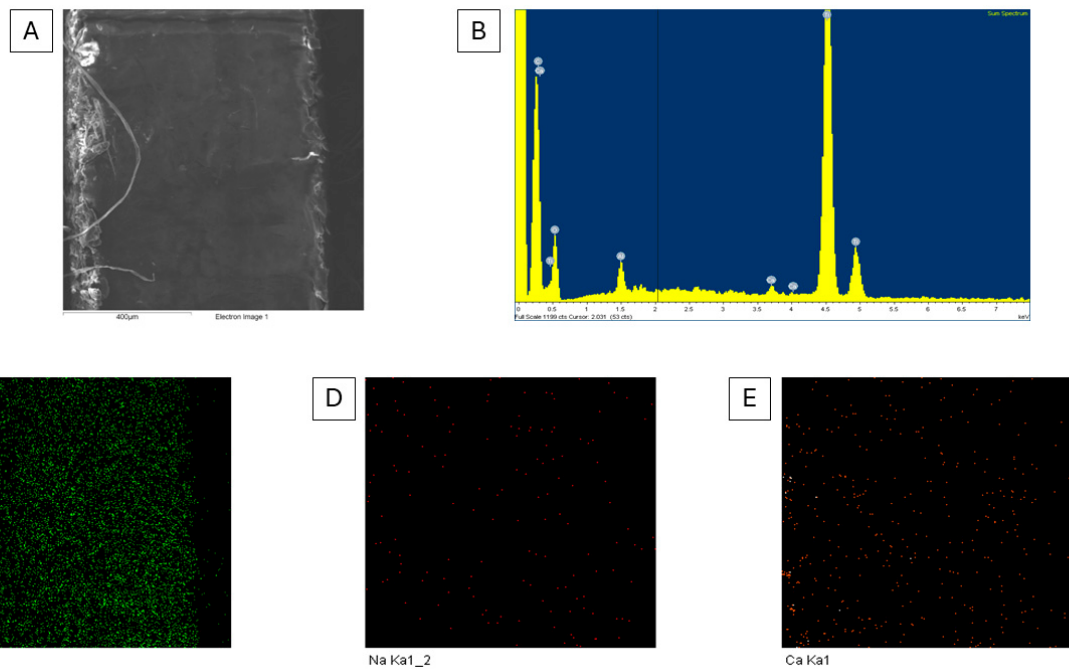


Figure S29. Pink Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), Ca (E) distribution on sample.

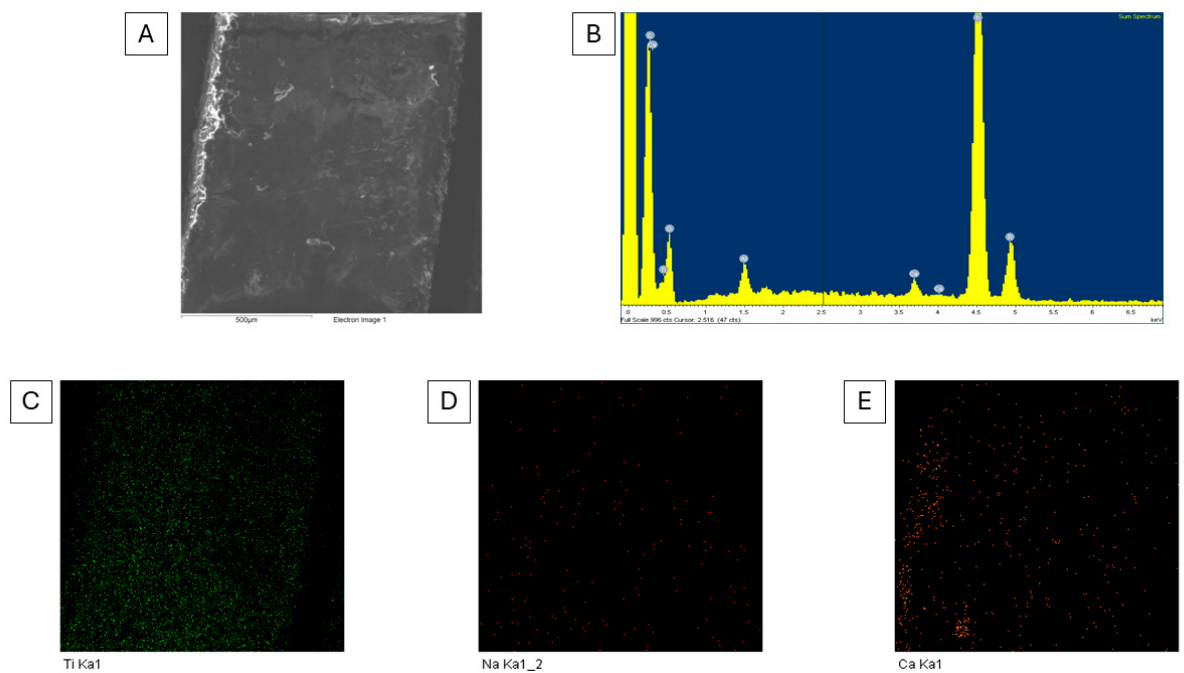


Figure S30. Pink Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), Ca (E) distribution on sample.

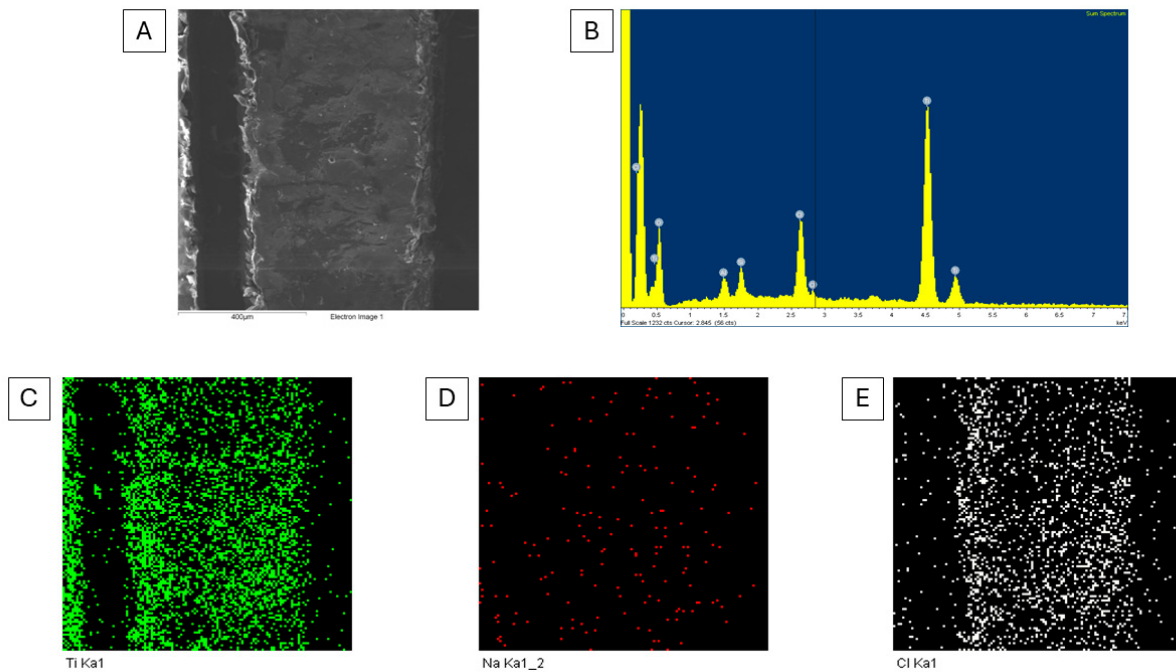


Figure S31. Green Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), Cl (E) distribution on sample.

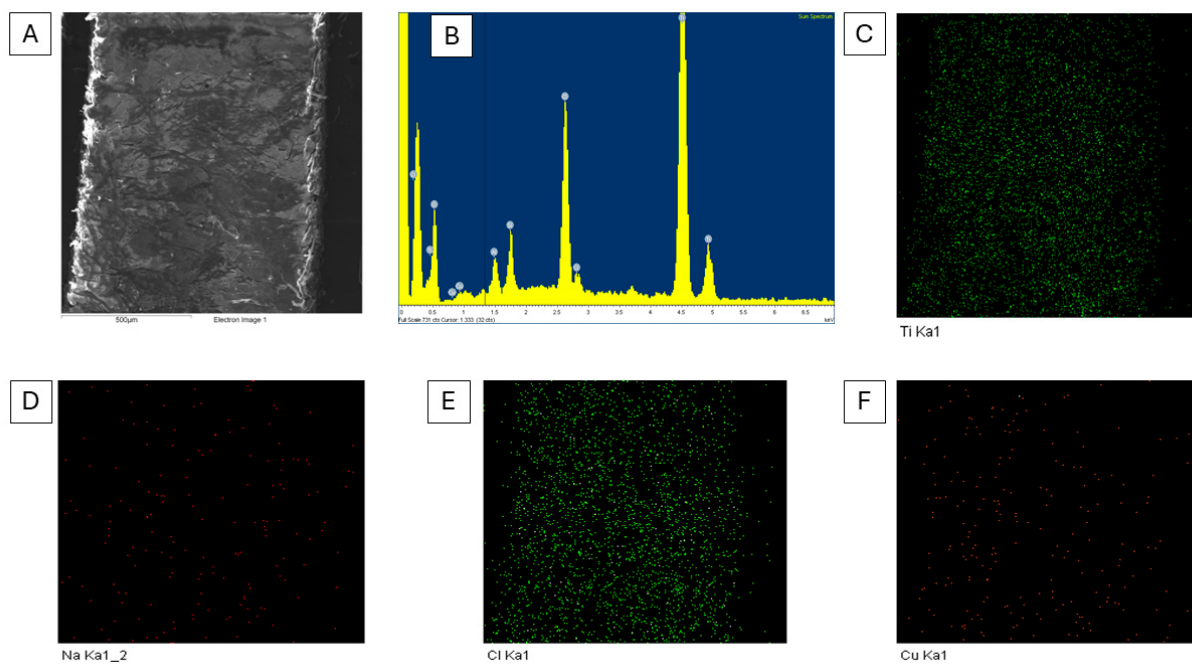


Figure S32. Green Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), Cl (E), Cu (F) distribution on sample.

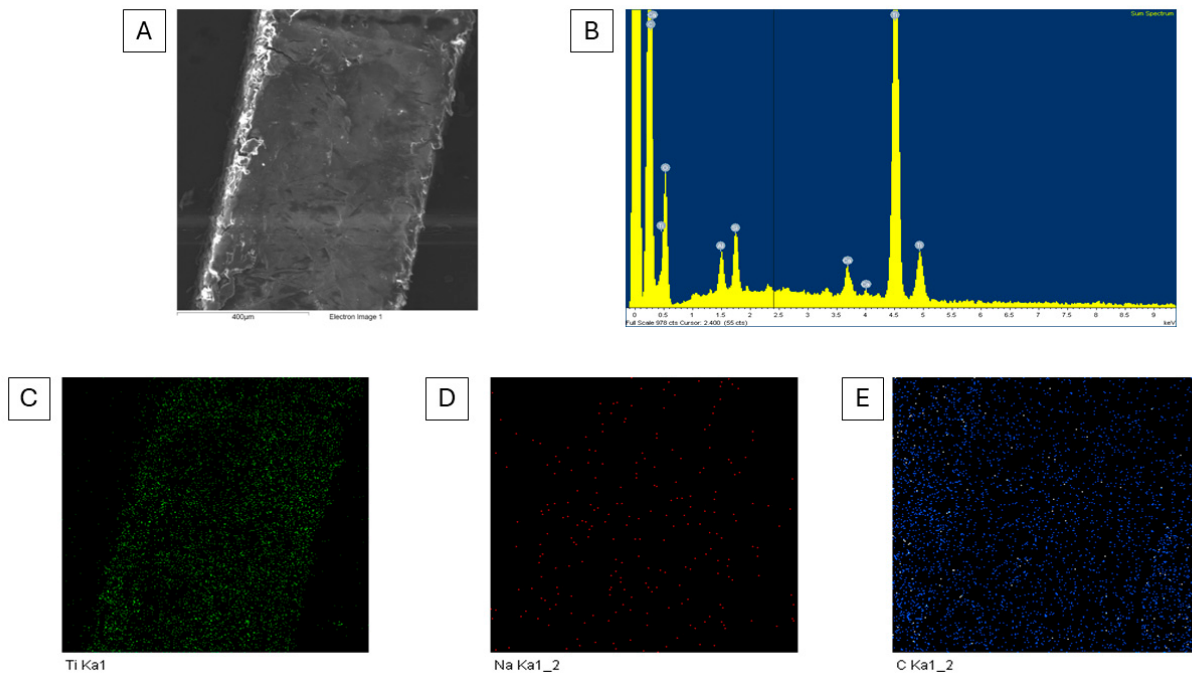


Figure S33. Red Posca ink section images before ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E) distribution on sample.

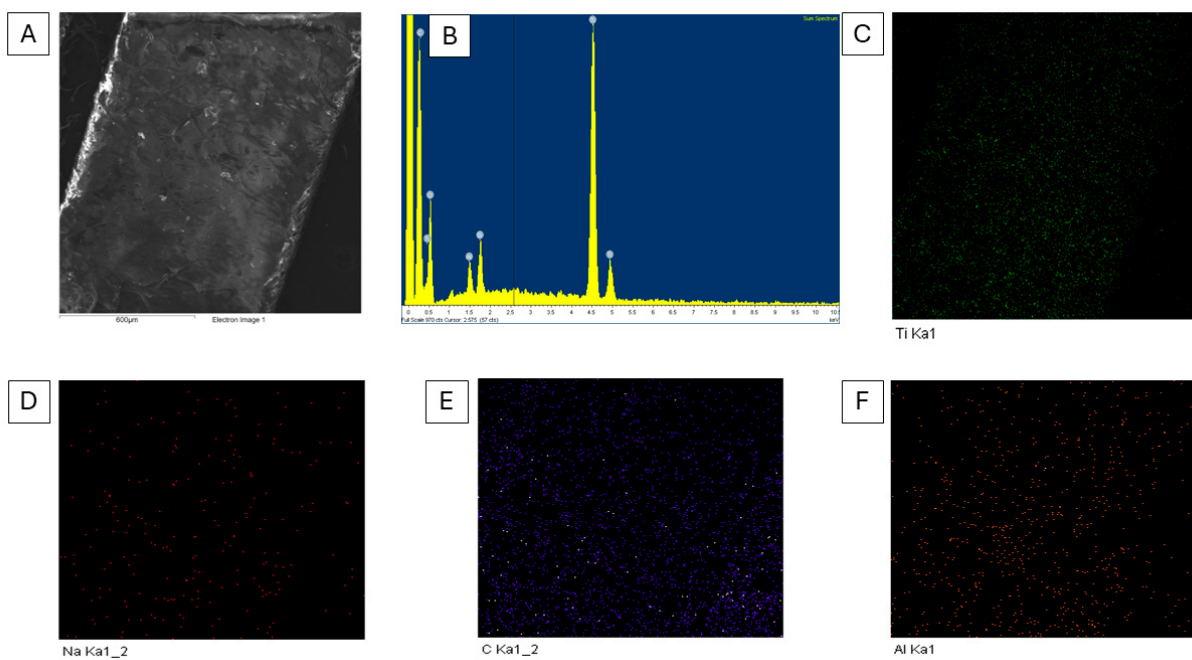


Figure S34. Red Posca ink section images after ageing, acquired on secondary electron (A); EDS composition (B); and Ti (C), Na (D), C (E), Al (F) distribution on sample.