

Supplementary material

Spectral imaging and a one-class classifier for detecting elastane in cotton fabrics

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Supplementary material

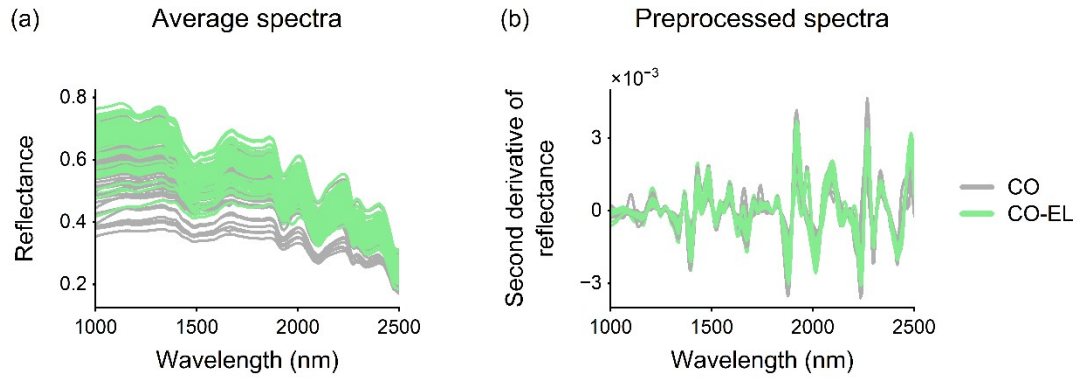


Figure S1: Average sample spectra (a), and preprocessed average sample spectra (b). Spectra have been colored based on the sample classes.

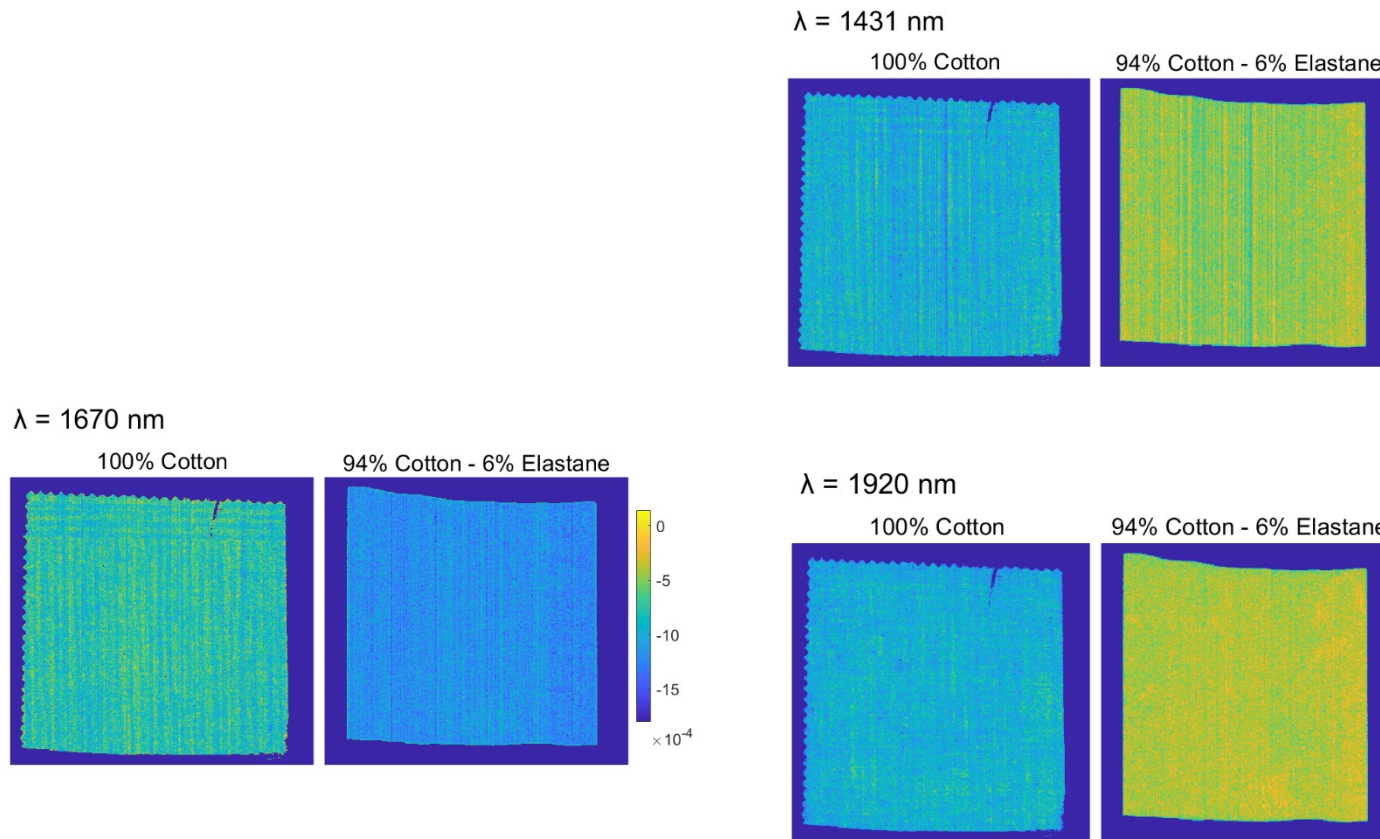


Figure S2: Preprocessed NIR images at the wavelengths separating samples in cotton and cotton-elastane classes. Wavelengths chosen in the figures are discussed in text.

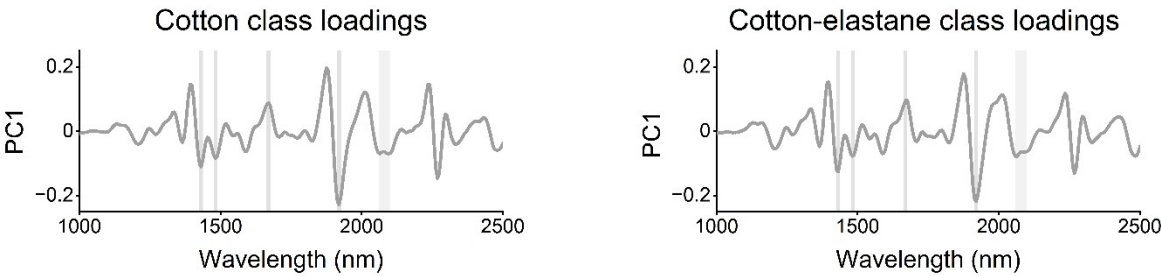
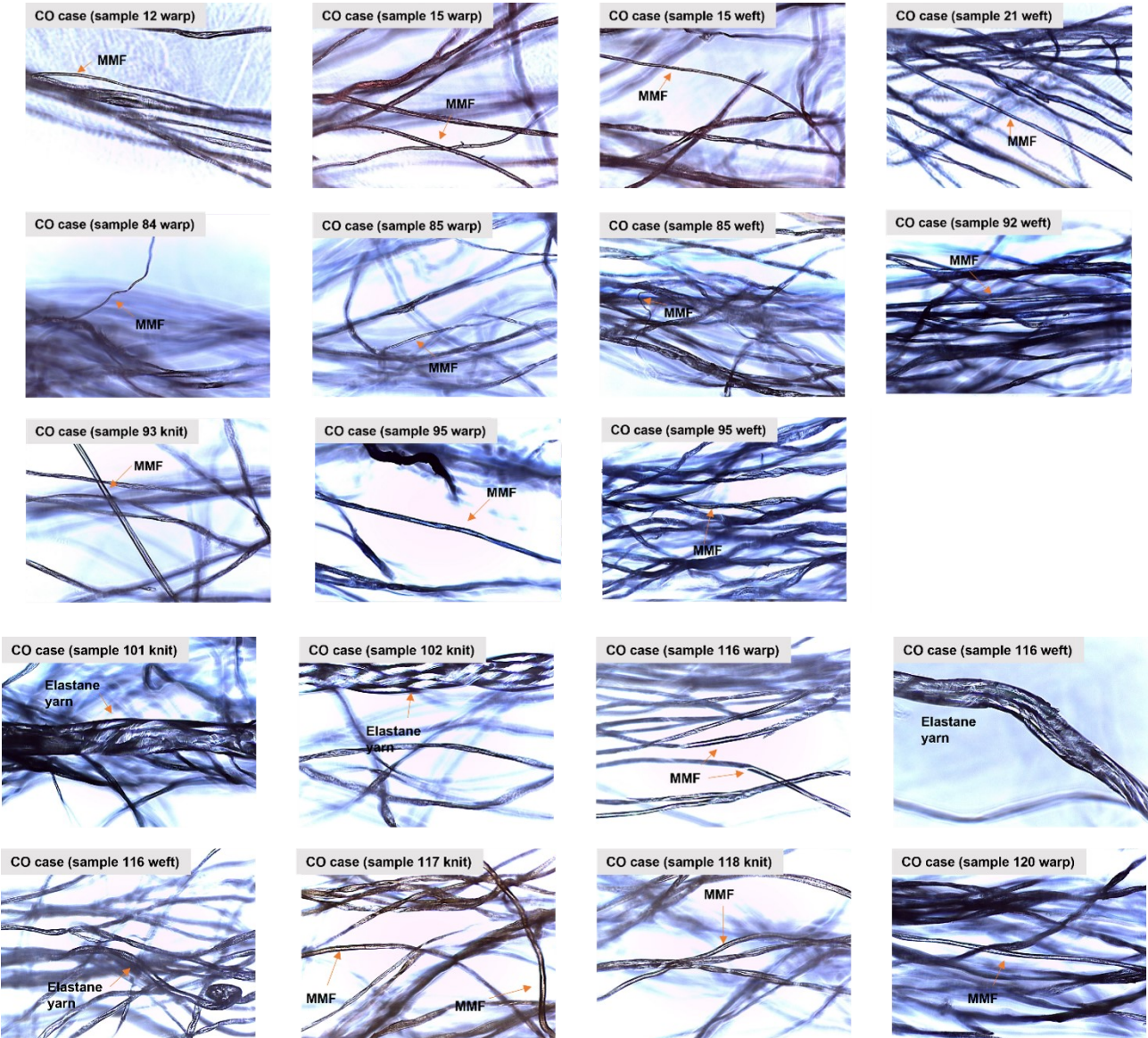


Figure S3: Disjoint PCA loading plots for both cotton and cotton-elastane classes. Important wavelengths marked in the figures and discussed in text.



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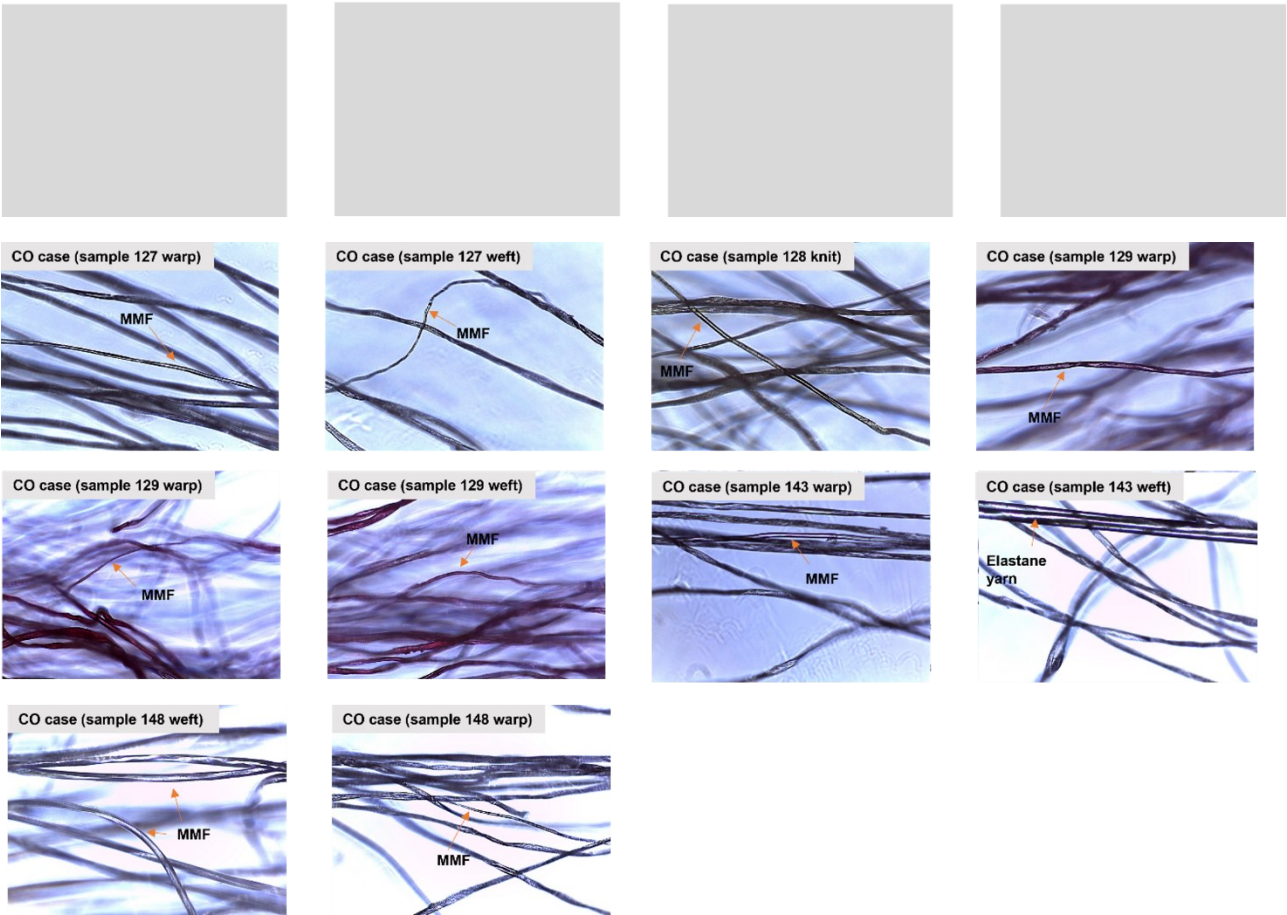
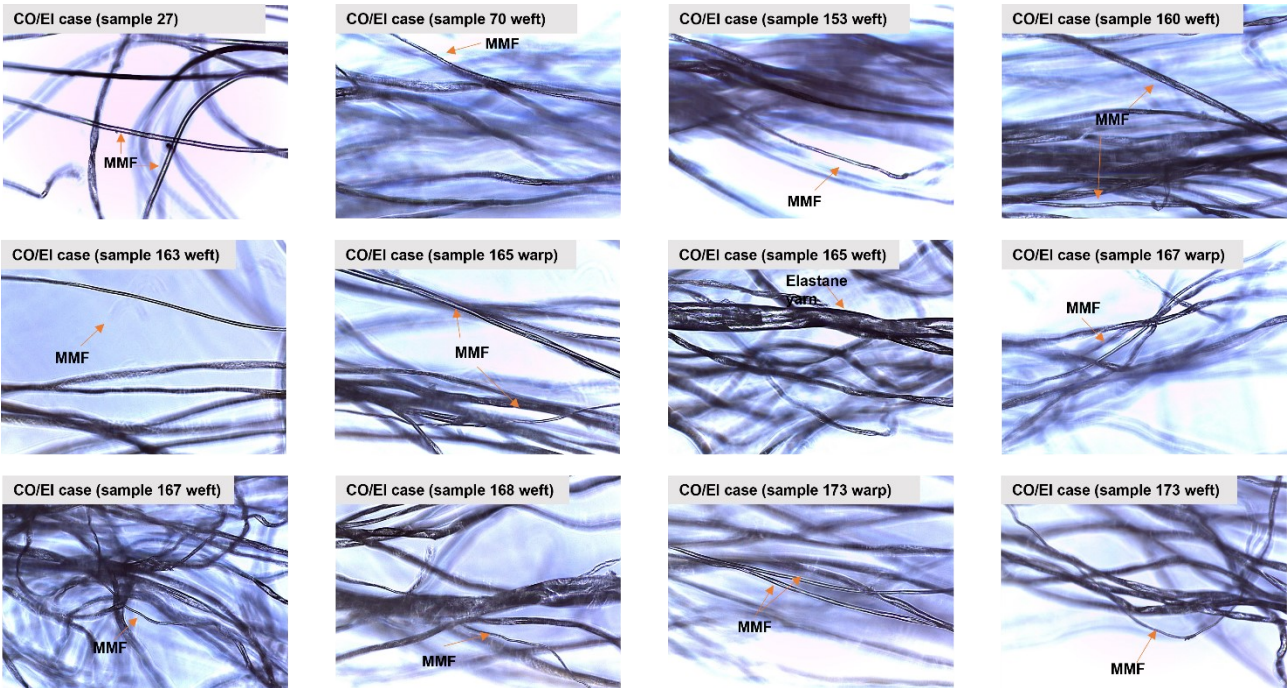


Figure S4: Microscopic structural images of the cotton (CO) outliers. Elastane and extraneous synthetic man-made fibers (MMF) present marked in the figure.



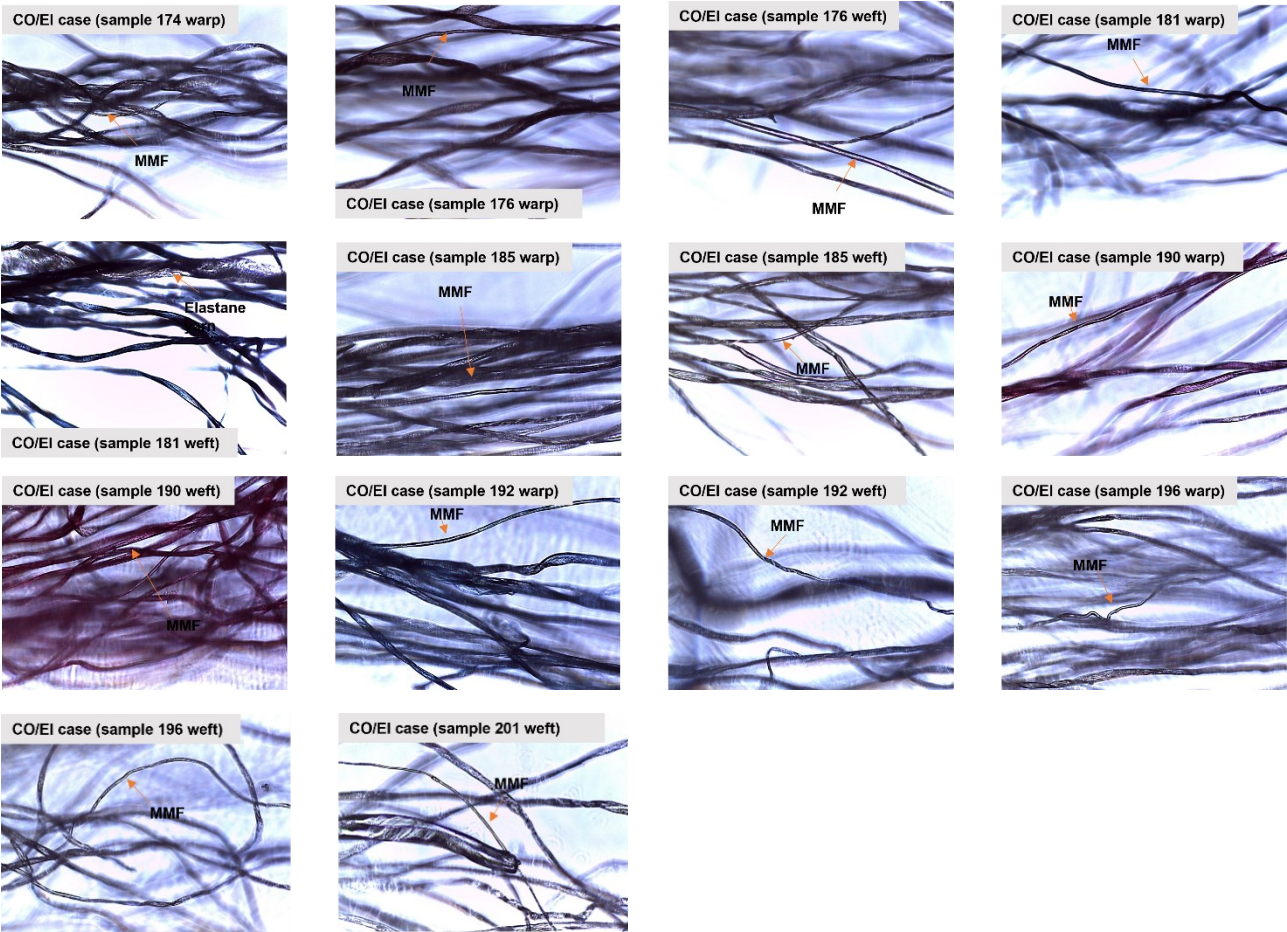


Figure S5: Microscopic structural images of the cotton-elastane (CO/EI) outliers. Elastane and extraneous synthetic man-made fibers (MMF) present marked in the figure.

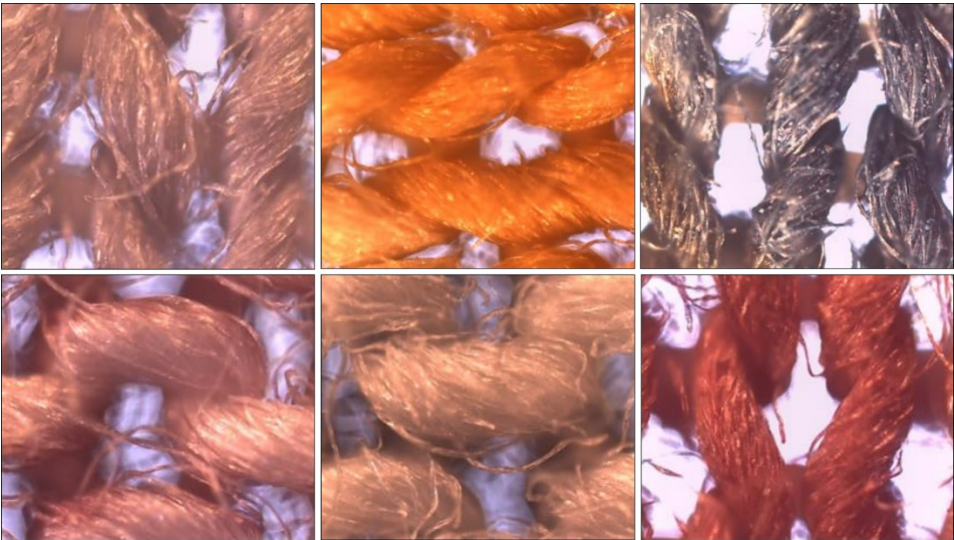


Figure S6: Illustration of the knitted structure of some cotton-elastane (CO/EI) outliers.

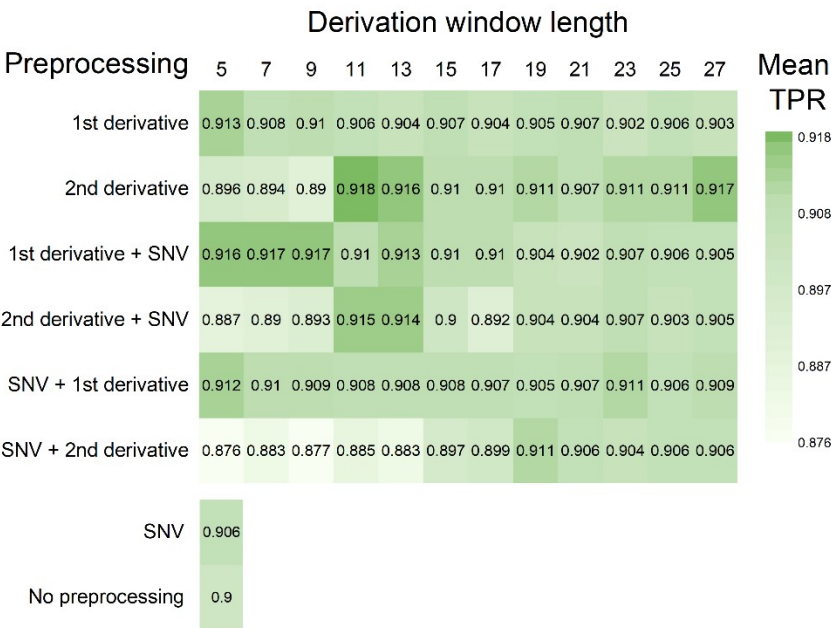


Figure S7: Monte Carlo cross-validation mean true positive rate (TPR) for each preprocessing combination and derivation window length for methods that include derivation.

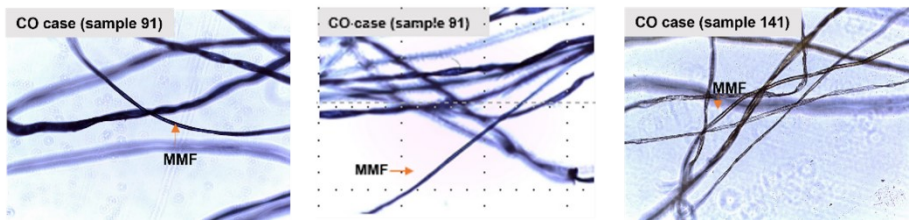


Figure S8: Microscopic structural images of misclassified CO fabrics. Synthetic man-made fibers (MMF) present marked in the figure.