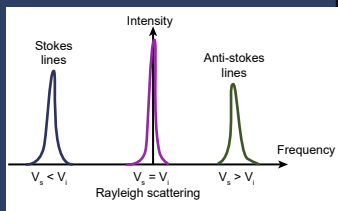


Universal detection of body fluid traces in situ with Raman hyperspectroscopy for forensic purposes:

Evaluation of a new detection algorithm (HAMAND) using semen samples

- Advances in body fluid identification
- Challenge in substrate interference
- Analysis in situ affected
- Implementation in crime scene

Raman spectroscopy



Raman spectroscopy is combined with numerical differentiation (HAMAND) and multivariate curve resolution for the detection and identification of biological stains on strongly interfering substrates

Detection of body fluids

Substrate independent

New approach

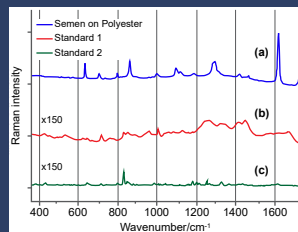
Simulated semen evidence

Extraction of fluid signal

Automatic, non-destructive

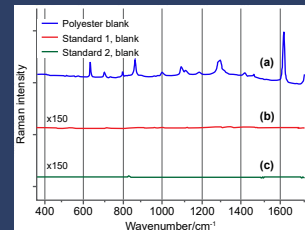
Matching with reference

Breaking down semen spectrum into components



Fabric substrates suppresses organic Raman bands from semen

Algorithm preserves the selectivity of the Raman approach



Trace detection

Advanced statistics

Spatial range

GRAPHICAL ABSTRACT REPORT

Graphical abstract REPORT for your assignment *CATER_320_2*

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