

*Supplementary information*

# Ex-vivo spectroscopic characterisation of the biological activity of pancreatic cyst fluid

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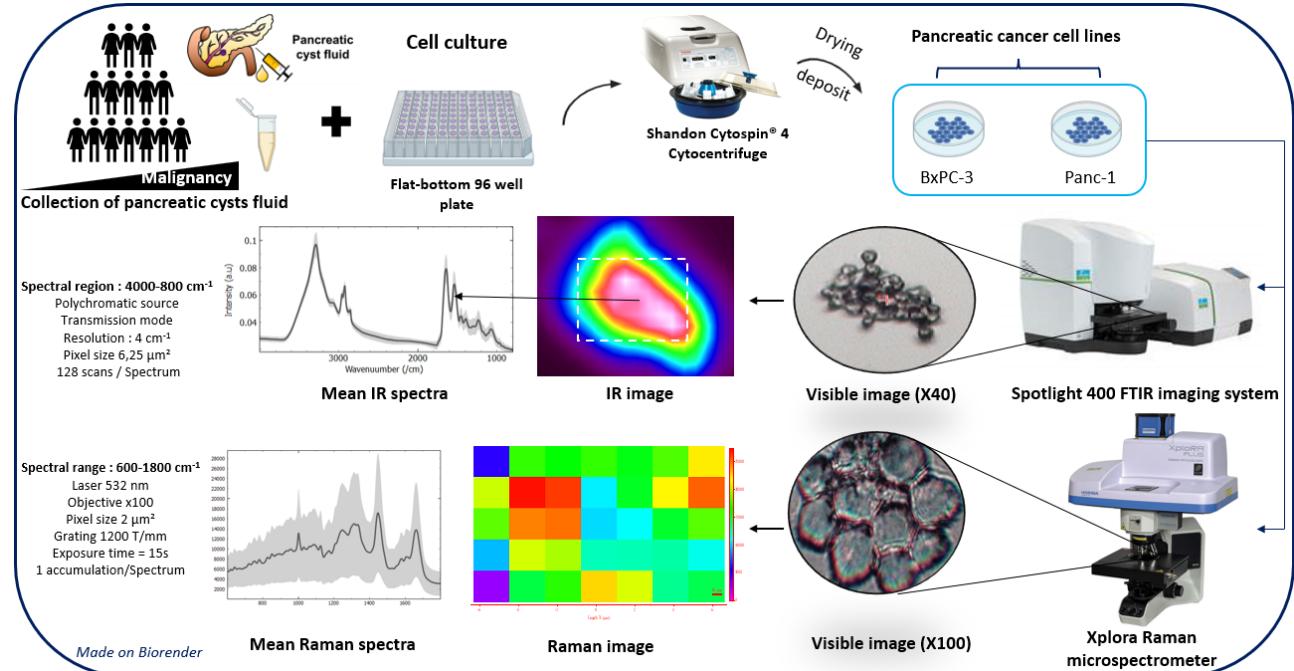
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## Experimental workflow



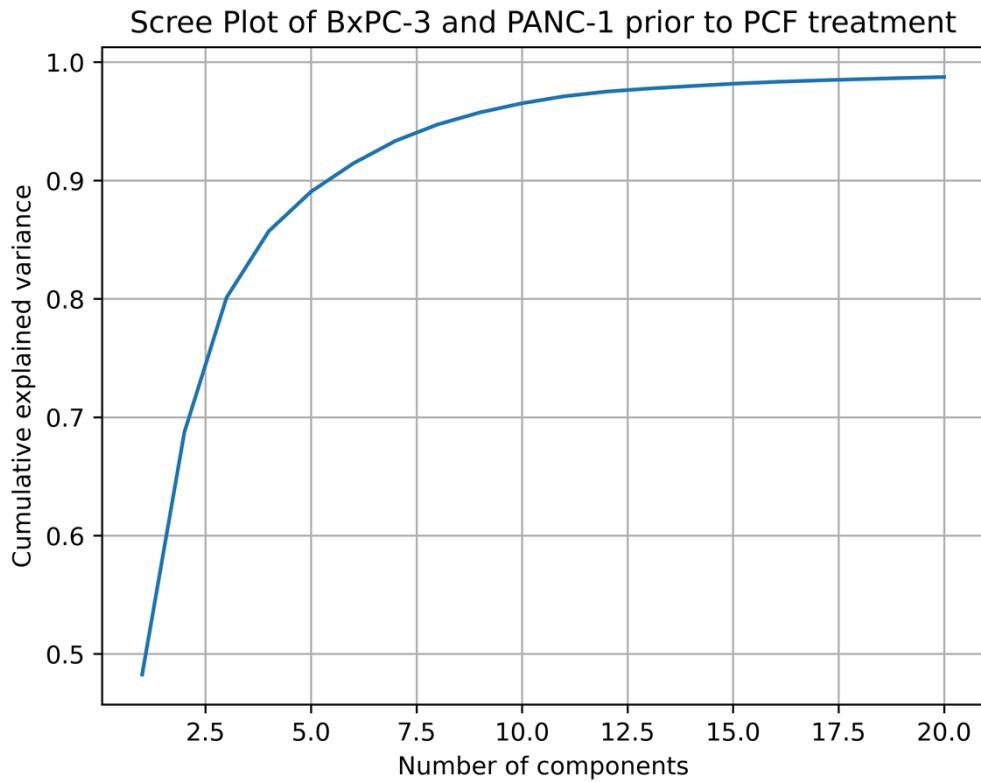
**Figure S1:** Experimental workflow of this study.

# Preprocessing workflow of FTIR images in OCTAVVS Preprocessing

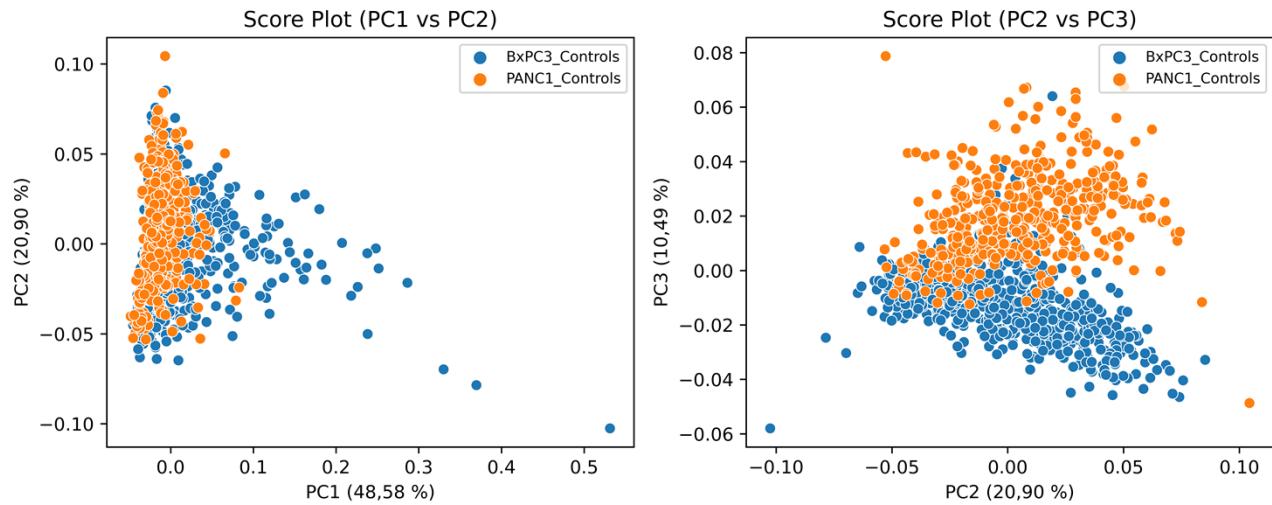


**Figure S2:** An example of preprocessing steps of FTIR images performed on BxPC-3 and PANC-1 cells in OCTAVVS preprocessing after background removal using Kmeans clustering.

# PCA results of Raman data for BxPC-3 and PANC-1 prior to PCF exposure

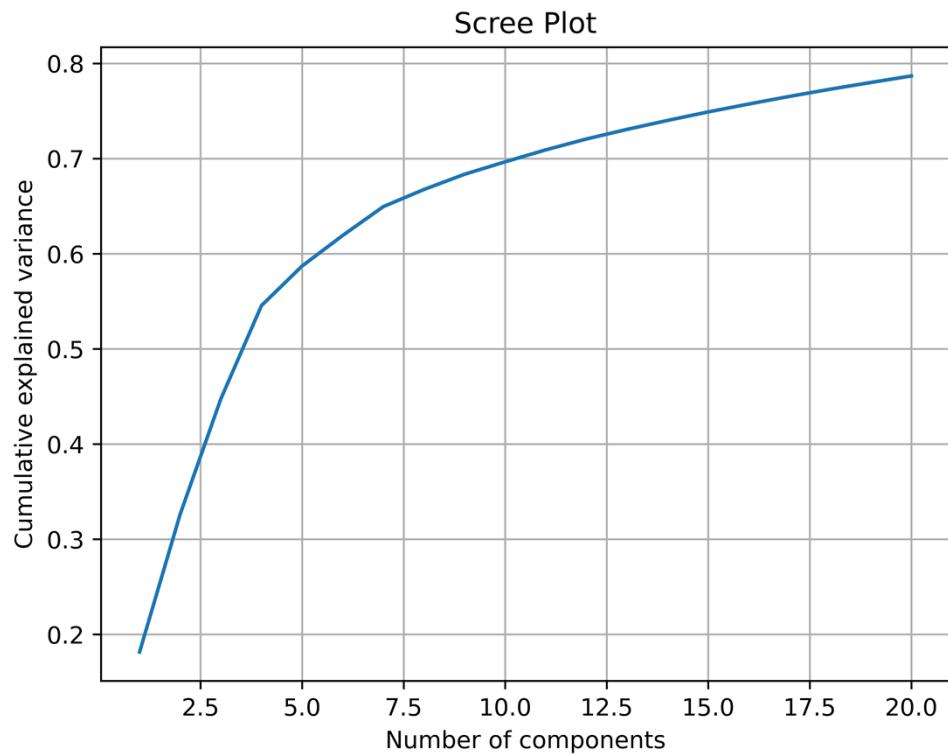


**Figure S3a:** Scree plot of Raman data for BxPC-3 and PANC-1 prior to PCF exposure.

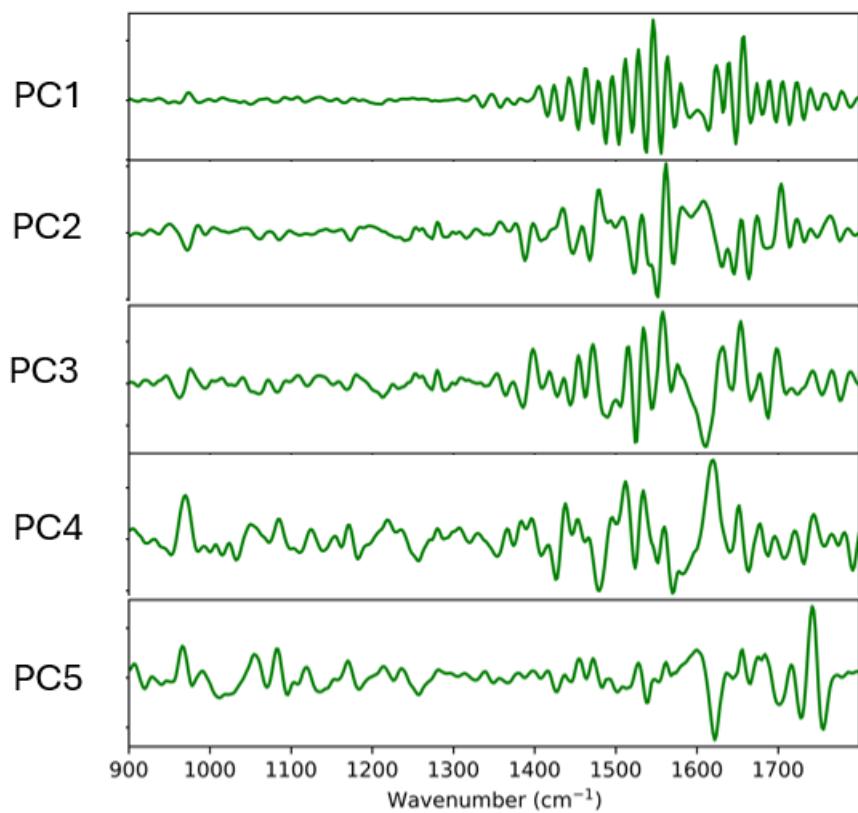


**Figure S3b:** Scores plot of Raman data for BxPC-3 and PANC-1 prior to PCF exposure.

## PCA results of FTIR data for BxPC-3 and PANC-1 prior to PCF exposure

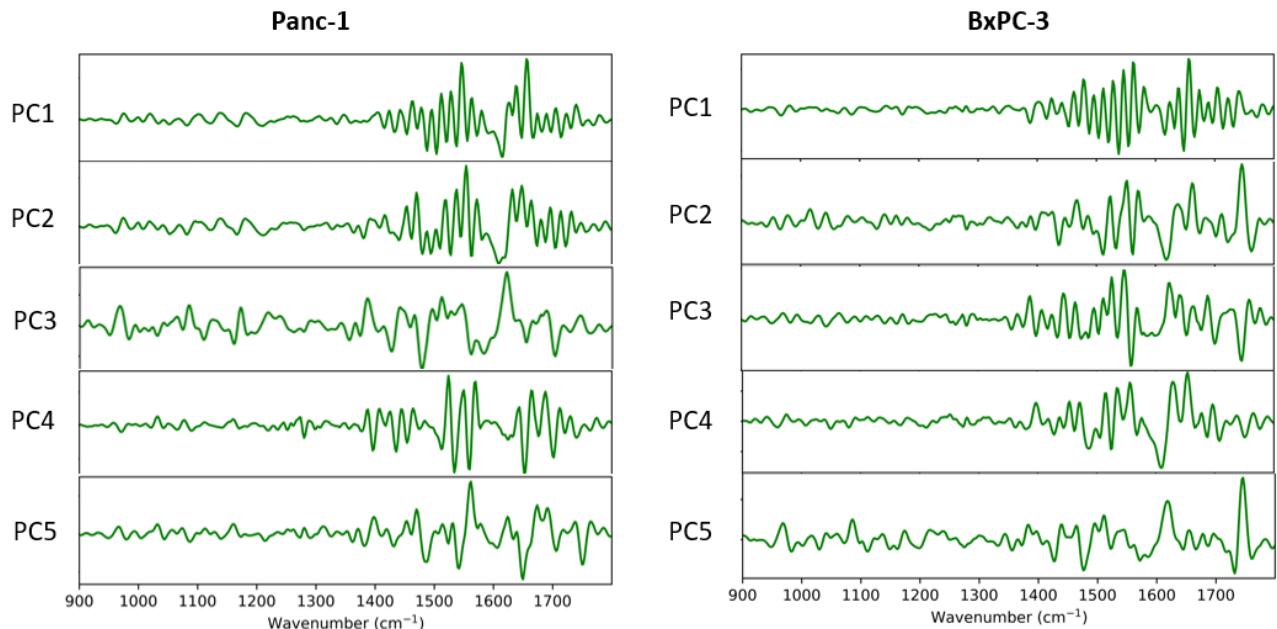


**Figure S4a:** Scree plot of FTIR data for BxPC-3 and PANC-1 prior to PCF exposure.



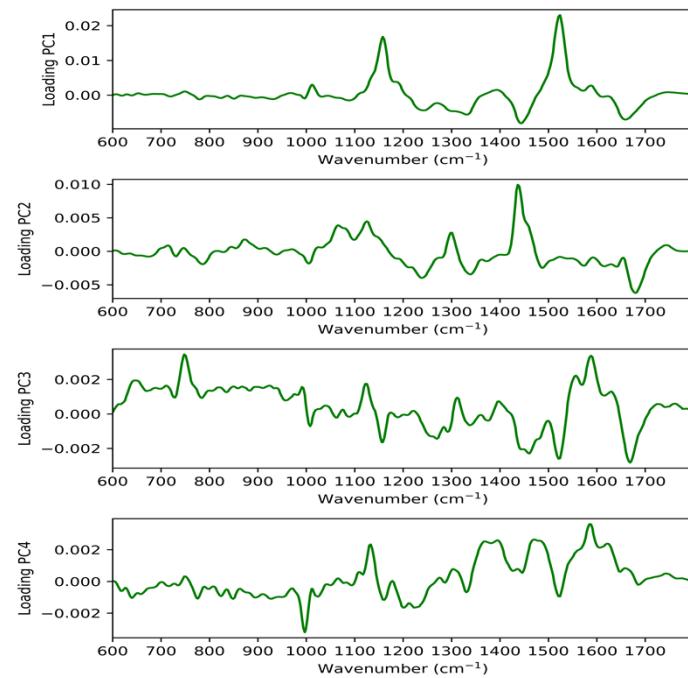
**Figure S4b:** Loading plot for FTIR data of BxPC-3 and PANC-1 cells pre-exposure to PCF.

PCA results of FTIR data for BxPC-3 and PANC-1 post-exposure to PCF



**Figure S5:** Loadings plot for FTIR of BxPC-3 and PANC-1 cells post-exposure to PCF.

## PCA results of Raman data for BxPC-3 vs PANC-1 pre- and post-exposure to PCF



**Figure S6:** Loadings plot of Raman data comparing BxPC-3 with PANC-1 cells post PCF-treatment.