

Spectroscopic insights into peri-implant mucositis and peri-implantitis: unveiling peri-implant crevicular fluid profiles using surface enhanced Raman scattering

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Supplementary materials

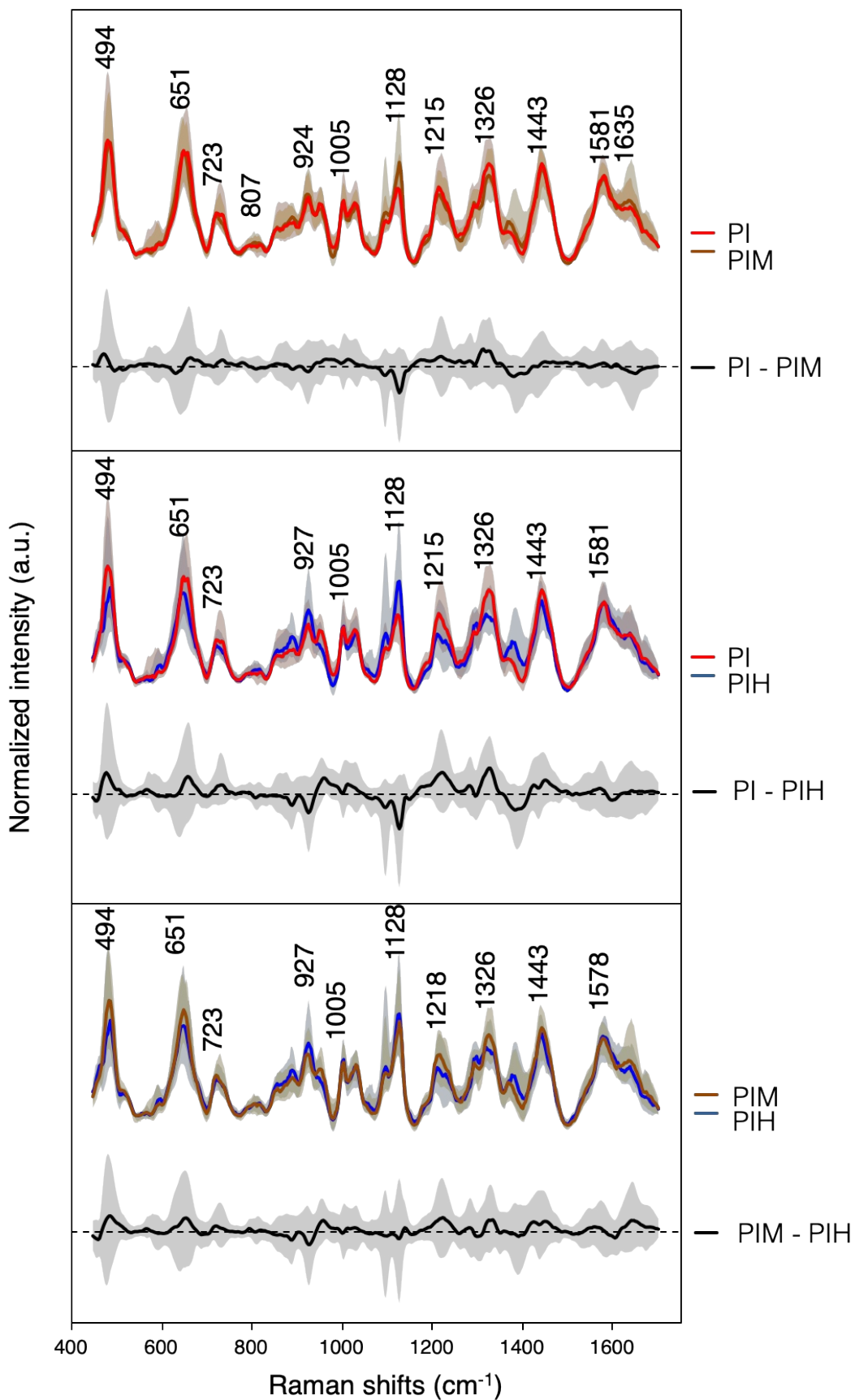


Figure S1. Comparison of median normalized SERS spectra of PICF samples collected from control (PIH, in blue), implants with peri-implant mucositis (PIM, in brown), and peri-implantitis (PI, in red), together with their difference spectrum (in black). The corresponding interquartile distributions are represented by the shaded area.

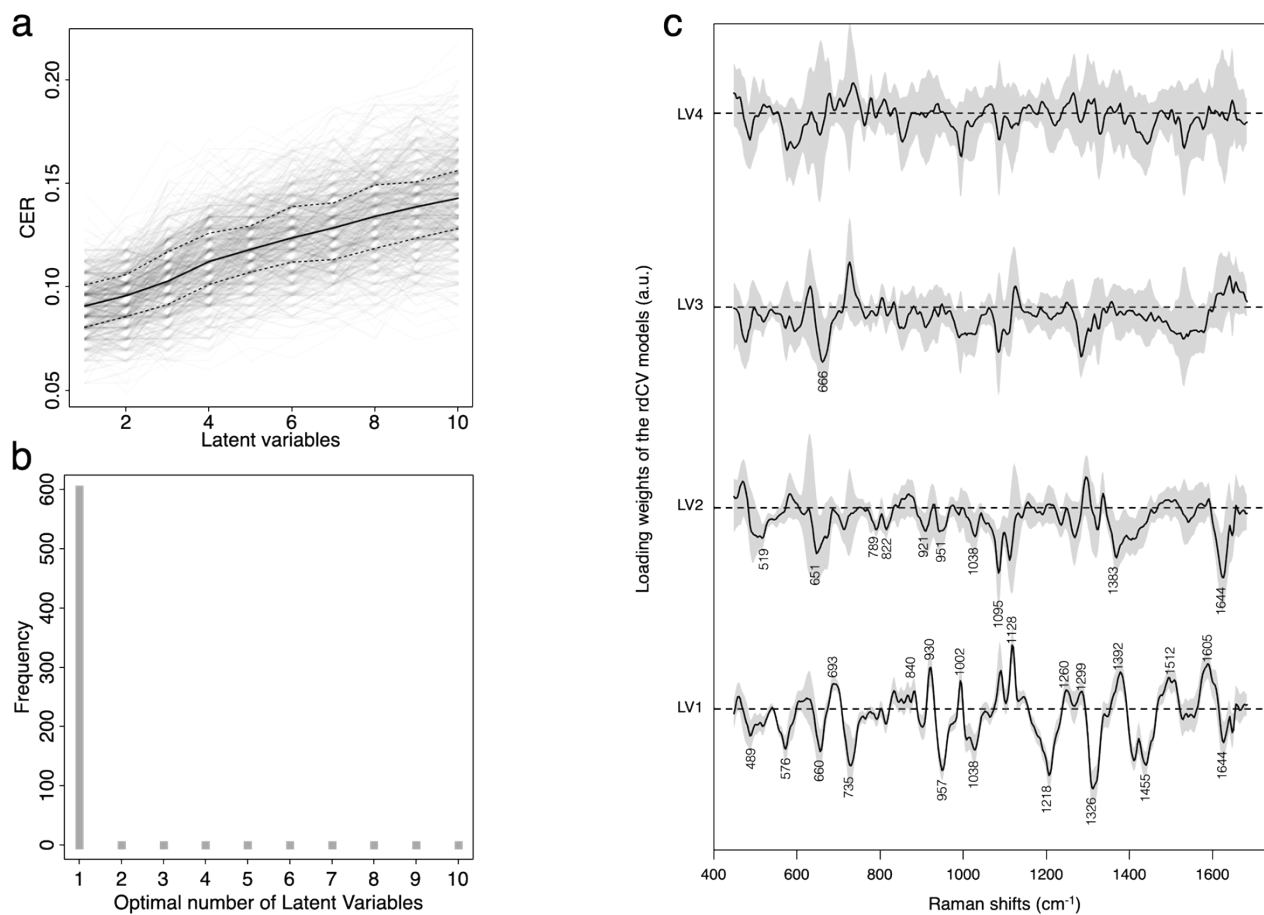


Figure S2. Characterization of the CPPLS-LDA models produced by the rdCV. **a** Curves for the inner cycle of the rdCV, showing the classification error rate (CER, %) when using a different number of latent variables; **b** Frequency plot for optimized models, showing the number of models generated (i.e., frequency) using a specific number of LV, as a consequence of model optimization; **c** Medians of the loading weights for latent variables 1-4, calculated over the optimized models from the rdCV; interquartile ranges are reported in gray.

Table S1 Figures of merit.

	Sensitivity [95% CI]	Specificity [95% CI]	Accuracy [95% CI]	Precision [95% CI]
PIM	0.89 [0.87-0.92]	0.92 [0.91-0.92]	0.91 [0.90-0.92]	0.85 [0.84-0.86]
PI	0.90 [0.89-0.91]	0.96 [0.95-0.97]	0.94 [0.93-0.95]	0.92 [0.90-0.94]
PIH	0.93 [0.93-0.93]	0.98 [0.98-0.98]	0.96 [0.96-0.96]	0.96 [0.96-0.96]

Table S2 Overview of sensitivity and specificity [95% CI].

	PIM		PI		PIH	
	<i>Sensitivity</i>	<i>Specificity</i>	<i>Sensitivity</i>	<i>Specificity</i>	<i>Sensitivity</i>	<i>Specificity</i>
SERS	0.91 [0.61-1.00]	0.98 [0.82-1.00]	0.87 [0.61-1.00]	0.94 [0.78-1.00]	0.90 [0.64-1.00]	0.93 [0.76-1.00]
Clinical	0.86 [0.77-0.96]	0.95 [0.91-1.00]	0.93 [0.85-1.00]	0.95 [0.90-0.98]	0.96 [0.90-1.00]	0.96 [0.93-1.00]
Fused	0.89 [0.87-0.92]	0.92 [0.91-0.92]	0.90 [0.89-0.91]	0.96 [0.95-0.97]	0.93 [0.93-0.93]	0.98 [0.98-0.98]