

In-vivo Detection of Cervical Cancer Lesions using Hyperspectral Colposcopy

Carlos Vega^{1,*}, Norberto Medina², Raquel Leon¹, Himar Fabelo^{1,3,4}, Alicia Martín², Gustavo M. Callico¹

¹Research Institute for Applied Microelectronics (IUMA), University of Las Palmas de Gran Canaria (ULPGC), Las Palmas de Gran Canaria, Spain.

²Complejo Hospitalario Universitario Insular Materno Infantil (CHUIMI), Servicio Canario de Salud (SCS), Las Palmas de Gran Canaria, Spain.

³Fundación Canaria Instituto de Investigación Sanitaria de Canarias (FIISC), Las Palmas de Gran Canaria, Spain.

⁴Research Unit, Hospital Universitario de Gran Canaria Dr. Negrin, Las Palmas de Gran Canaria, Spain

*cvega@iuma.ulpgc.es

Supplementary Figures

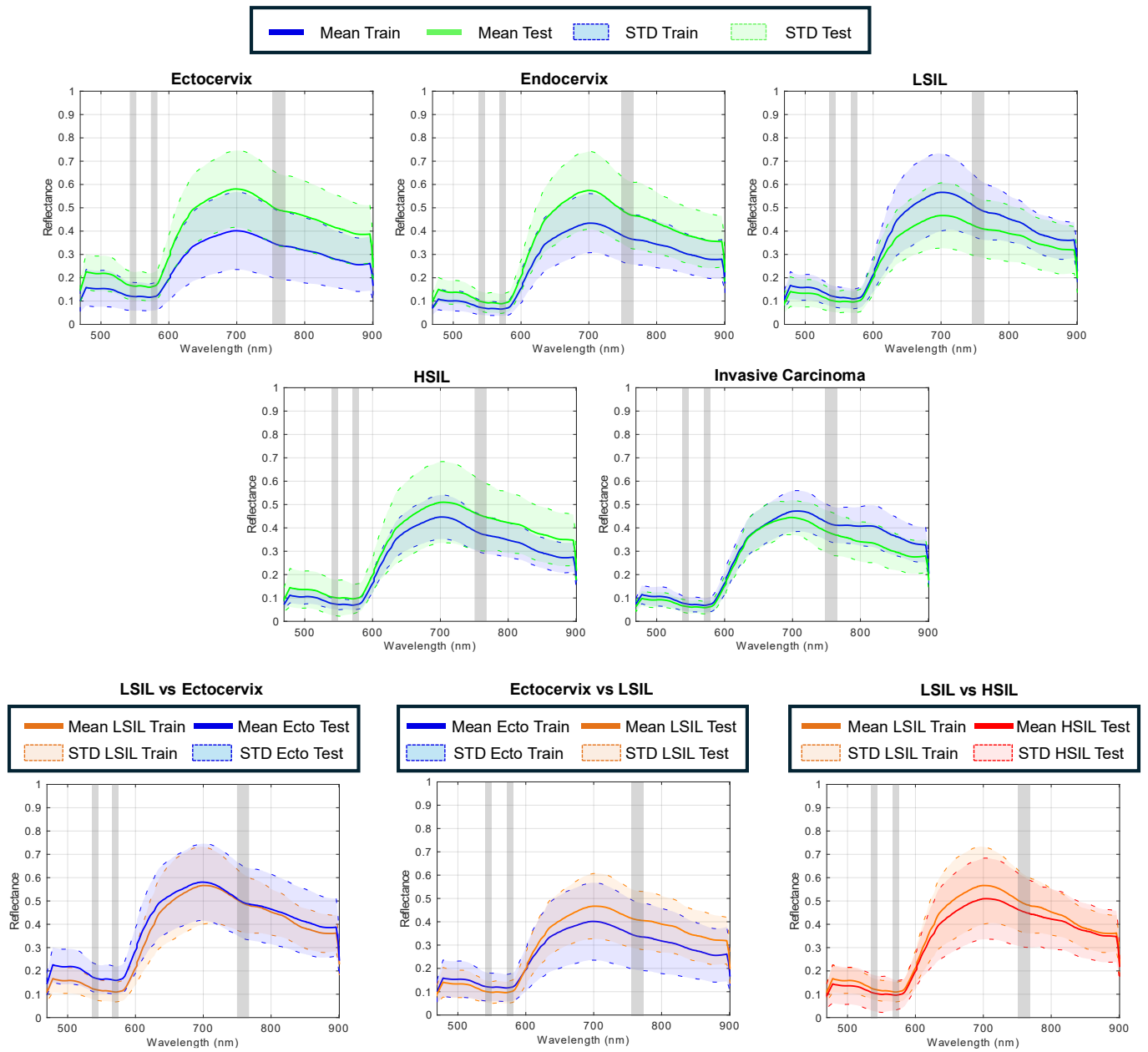


Fig. S1| Mean spectral signatures for each diagnostic class in the training versus test cohorts. For each graph shaded areas indicate standard deviation across pixels. Differences between cohorts and overlaps between class means (for example, ecto vs. LSIL; LSIL vs. HSIL) illustrate potential sources of generalisation error. The darker grey areas represent the wavelengths related to the most relevant absorption peaks of haemoglobin in 546, 576 and 750 nm.

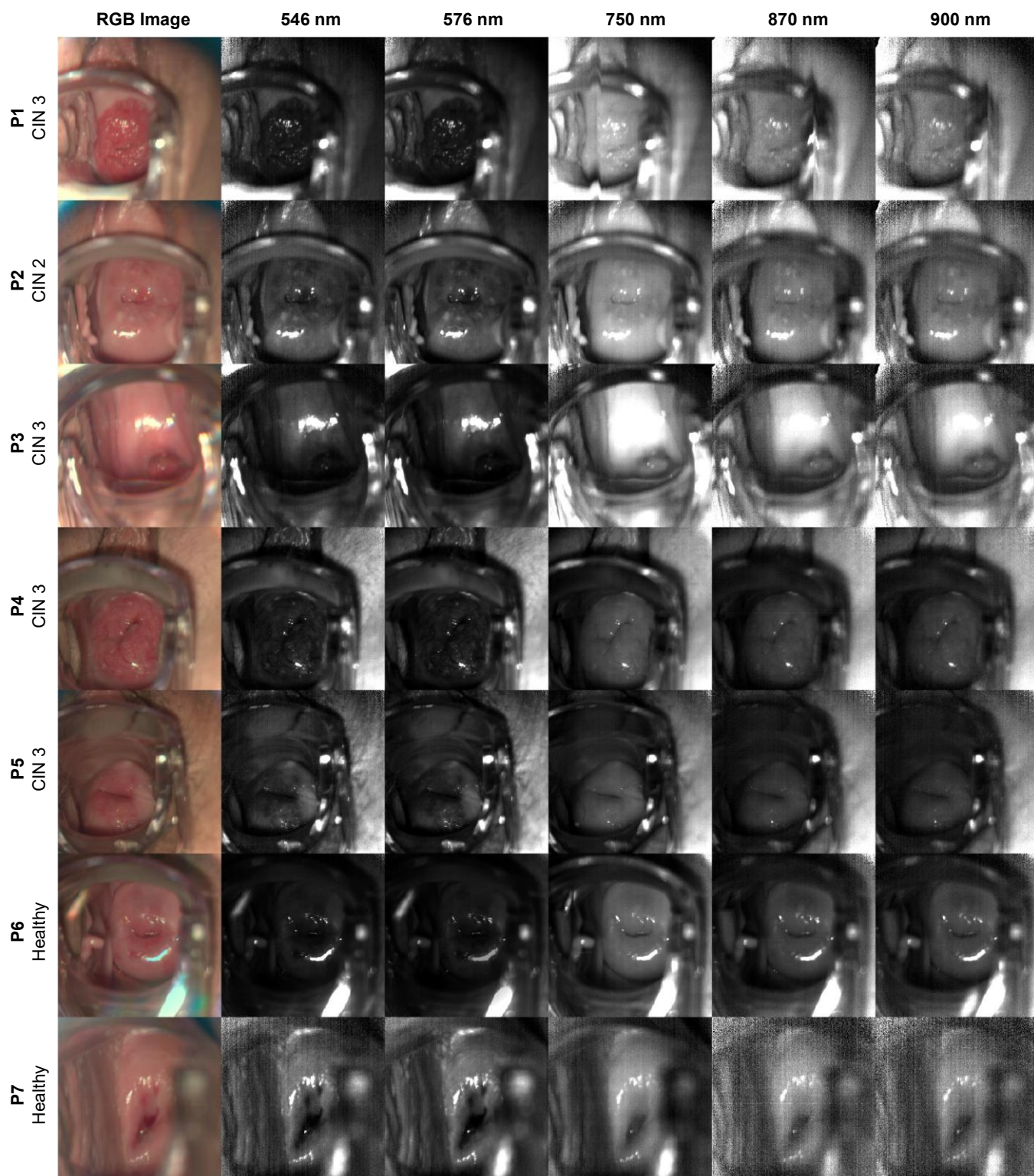


Fig. S2| Hyperspectral captures for test patients P1–P7. For each patient (rows), the panel shows a synthetic RGB composite reconstructed from the HSI cube, followed by single-band images at 546, 576, 750, 870 and 900 nm

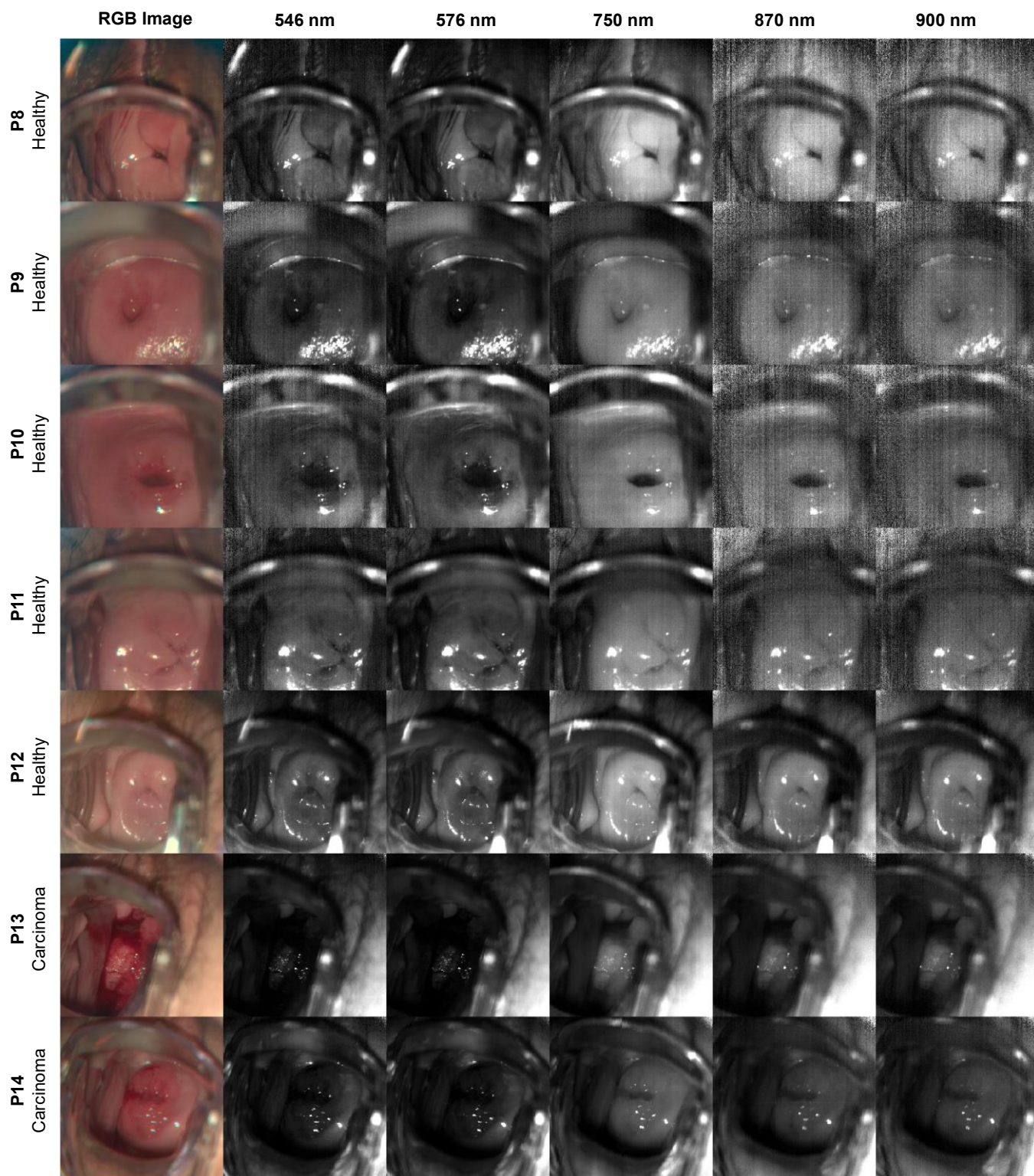


Fig. S3 | Hyperspectral captures for test patients P7–P14. For each patient (rows), the panel shows a synthetic RGB composite reconstructed from the HSI cube, followed by single-band images at 546, 576, 750, 870 and 900 nm