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"Codex4D" Project: Interdisciplinary Investigations on Materials and Colors of De Balneis Puteolanis (Angelica Library, Rome, ms. 1474)

Eva Pietroni [1]*, Alessandra Botteon[1], David Buti[1], Alessandra Chirivì[1], Chiara Colombo[1], Claudia Conti[1], Anna Letizia Di Carlo[2], Donata Magrini[1], Fulvio Mercuri[3], Noemi Orazi[3], Marco Realini[1]

[1] CNR Institute of Heritage Science, Headquarters Naples, 80134, Italy; alessandra.botteon@cnr.it (A.B.); david.buti@cnr.it (D.B.); alessandra.chirivi@cnr.it (A.C.); chiara.colombo@cnr.it (C.C.); claudia.conti@cnr.it (C.C.); donata.magrini@cnr.it (D.M.); marco.realini@cnr.it (M.R.)
[2] Angelica Library, Rome, 00186, Italy; annaletizia.dicarlo@cultura.gov.it
[3] Department of Industrial Engineering, University of Rome Tor Vergata, Rome, 00133, Italy; mercuri@uniroma2.it (F.M.); noemi.orazi@uniroma2.it (N.O.)
* Correspondence: eva.pietroni@cnr.it; Tel.: +39-06-90672349

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SUPPLEMENTARY INFORMATION

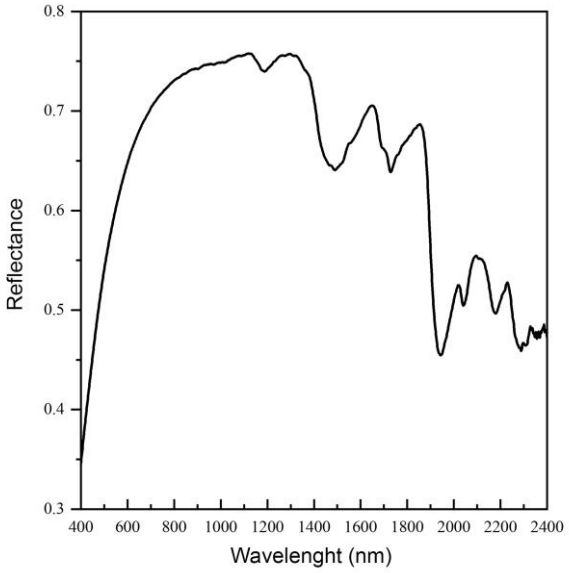

Figure S1. Reflectance spectrum collected on the parchment (point 48). The spectrum is dominated by protein signals in the NIR region. The signals in the range between 2250 and 2350 nm could be ascribed to lipids.

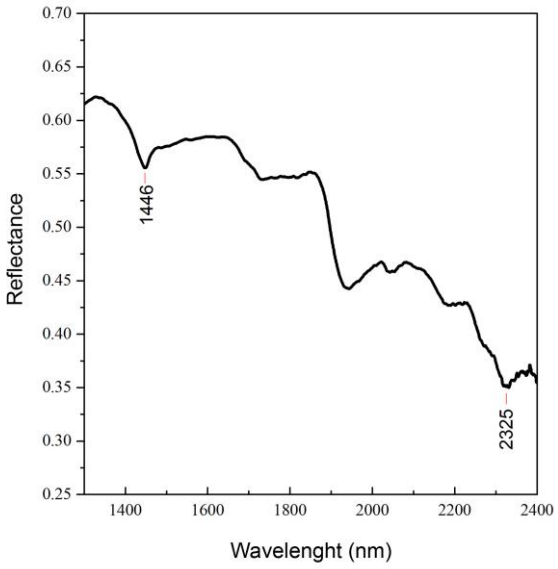

Figure S2. Reflectance spectrum collected on point 6. The spectrum displays the signal of lead white.

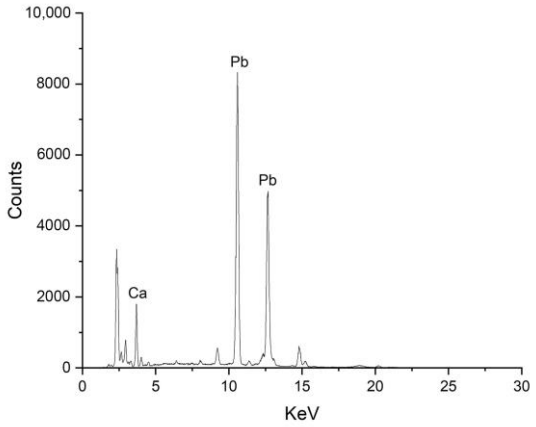

Figure S3. XRF spectrum collected on point 5. The presence of lead peaks (Pb) suggests the use of lead white in mixture with the red organic lake. The latest was identified with hyperspectral imaging (Fig. 11c) and UV-vis-NIR spectroscopy (Fig. 12).

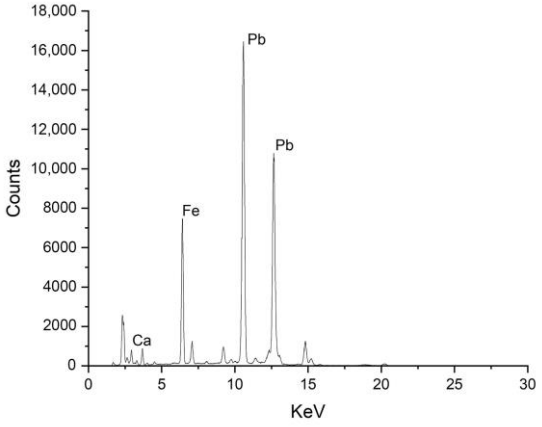

Figure S4. XRF spectrum collected on point 7. The relatively high intensity of iron peaks (Fe) suggests the use of ochre(s) to obtain the brown hue observed on the hair of the bathers.

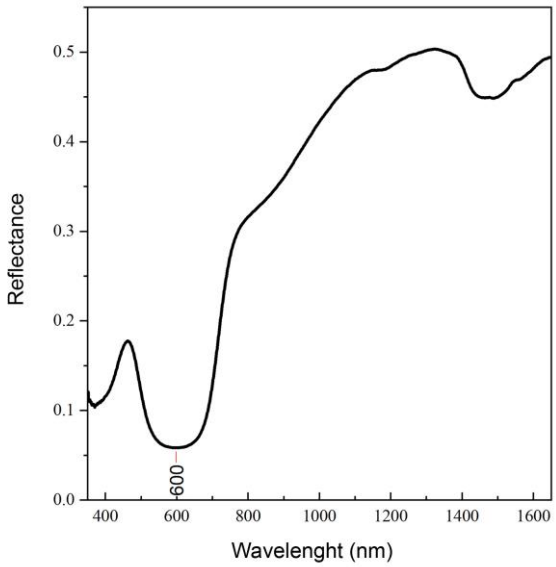

Figure S5. Reflectance spectrum of point 35. The spectrum displays the signal of ultramarine blue.

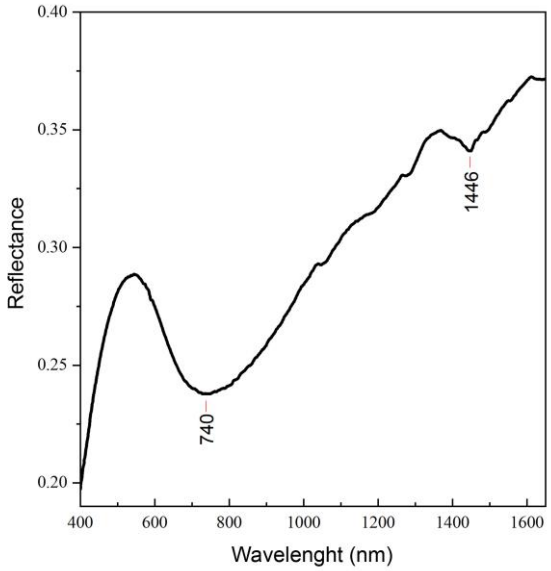

Figure S6. Reflectance spectrum acquired on point 19. The spectrum exhibits the signals of a copper-based green pigment and lead white.

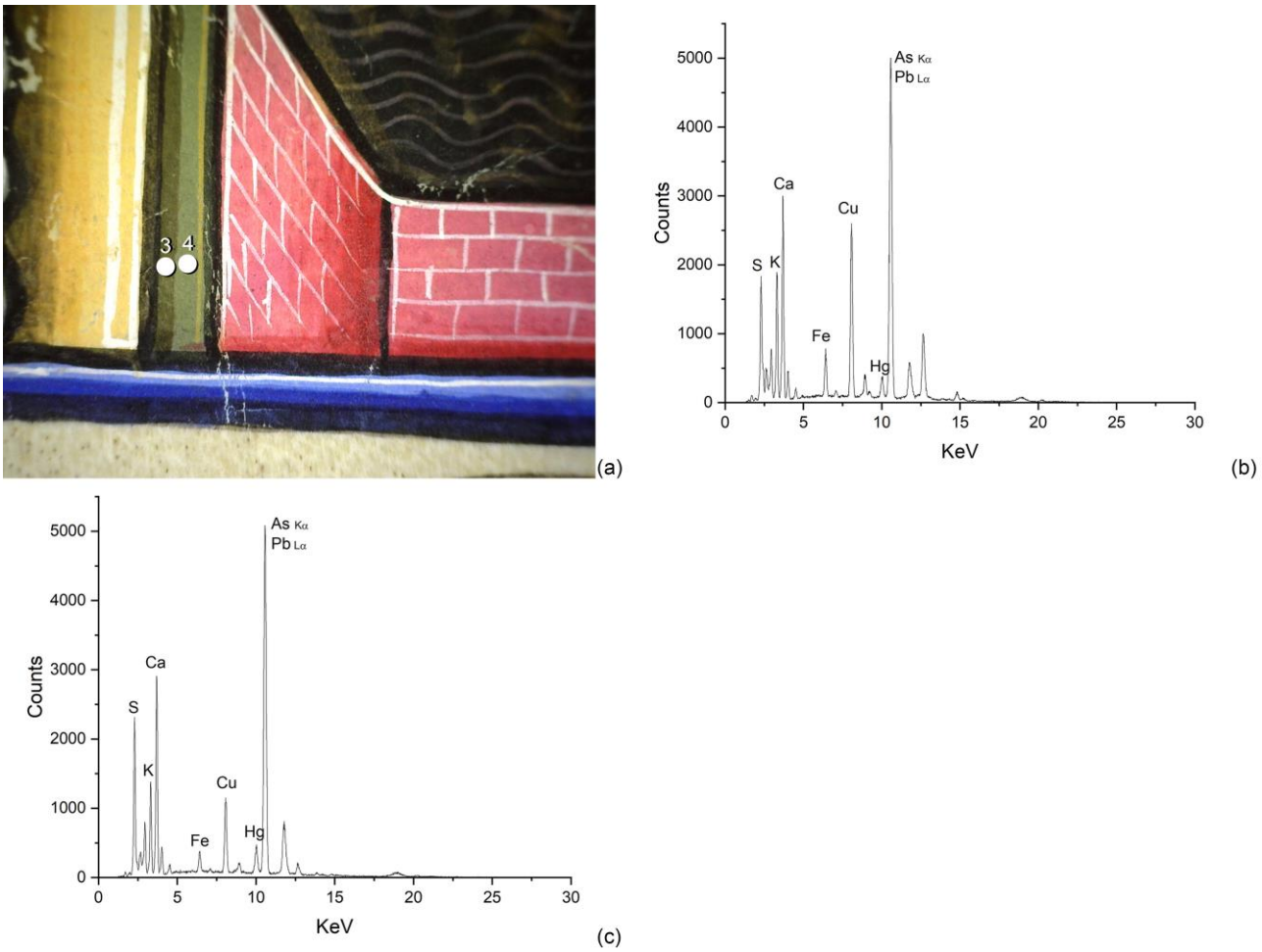

Figure S7. Optical image that focuses on the green column present in the lower part of the miniature, with indication of the XRF measurements locations (a); XRF spectra collected on the darker (b) and lighter (c) green colour of the column (points 3 and 4). In both spectra, the peaks of arsenic (As) and lead (Pb) are ascribed to the presence of vergaut and lead white, respectively. The peak of copper, that is particularly intense in the spectrum in (b), suggests the presence of a copper-based pigment used as glazing.

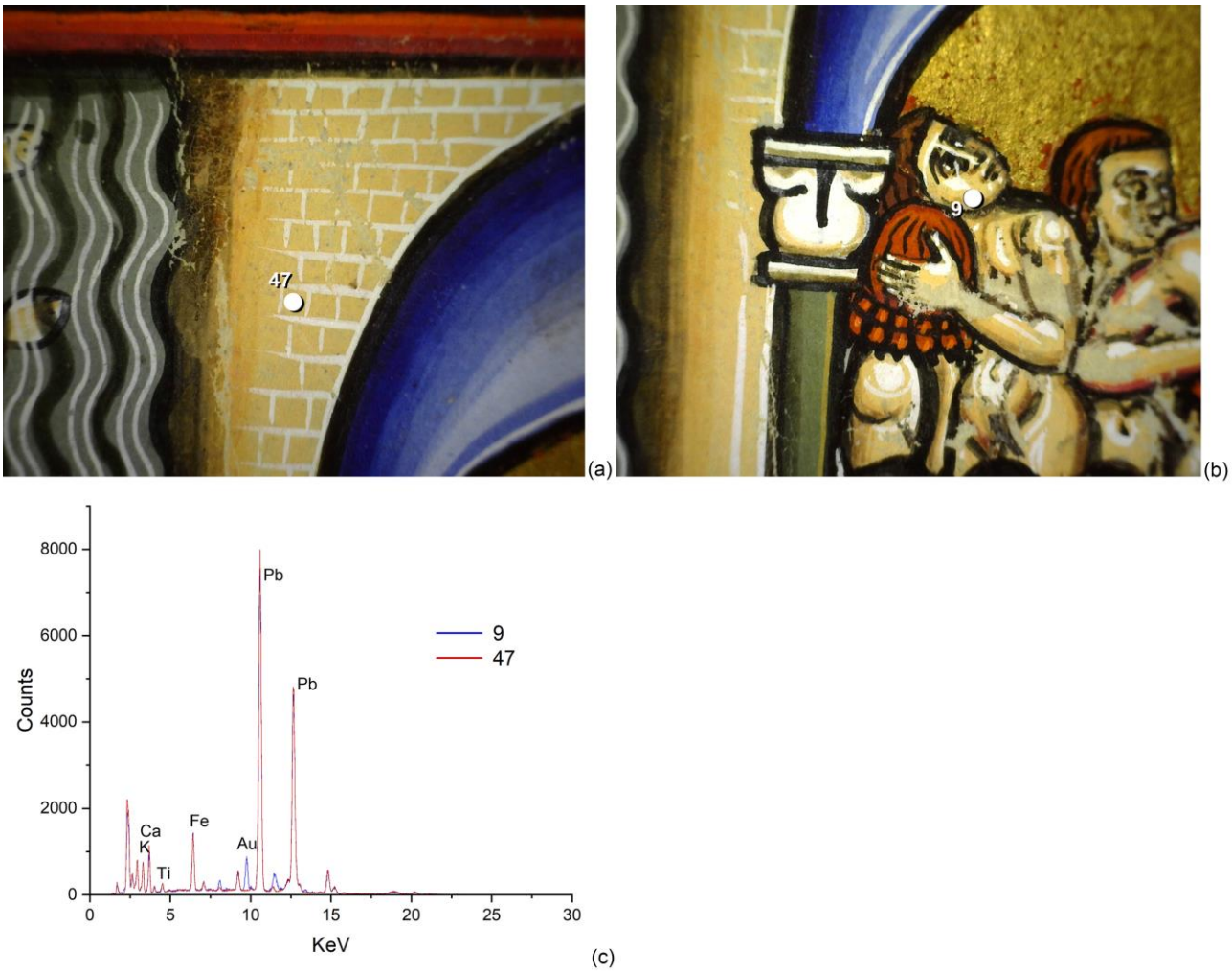

Figure S8. Optical images of the yellow architecture (a) and the bathers (b) in the lower part of the miniature, with indication of the XRF measurements location; XRF spectra of points 47 and 9 (c).