

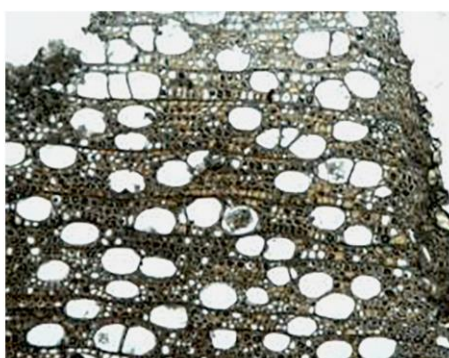


(a)

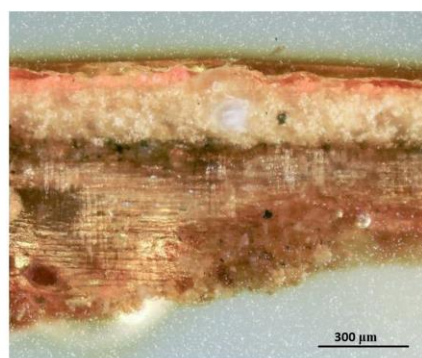


(b)

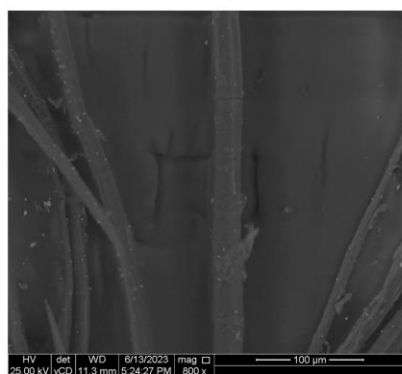
Figure S1. (a) Giovanni Santi, *Martyrdom of Saint Sebastian* (1487-1488)sampling areas; (b) Justus of Gent, *Communion of the Apostles* panel (1473-1474)sampling areas.



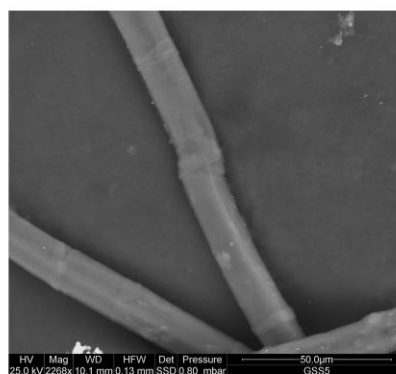
(a)



(b)



(c)



(d)

Figure S2. (a) *Martyrdom of Saint Sebastian* panel: sample GSM9, PLM micrograph of poplar (*Populus* sp.), transmitted light; *Visitation* altarpiece: (b) protective layer in the *verso* of the panel: sample SF8, PLM micrograph of the cross-section in visible light; (c) sample SF9, ESEM, micrograph of linen fibers; (d) *Tobias and the Archangel Raphael*: sample GSS5: BSE micrograph of linen fibers.

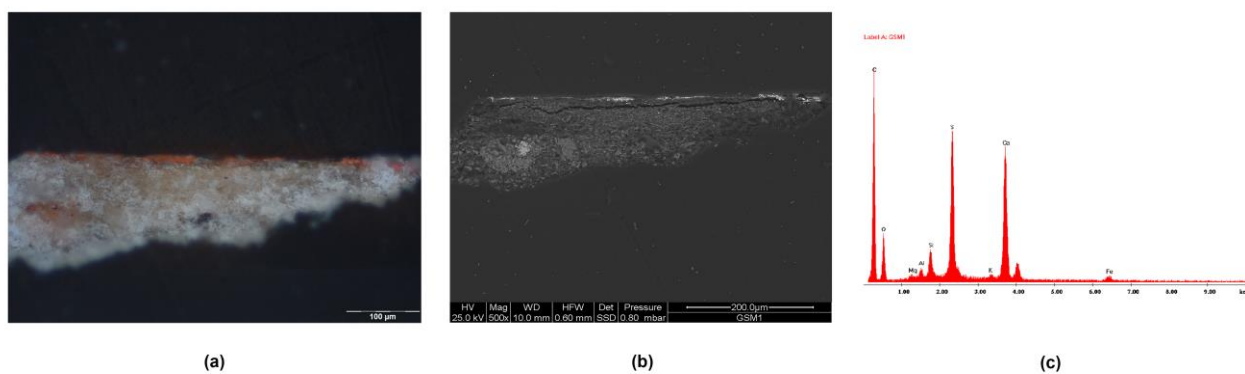


Figure S3. *Martyrdom of Saint Sebastian* panel. Sample GSM1: (a) PLM micrograph of the cross-section, visible light; (b) ESEM-BSE micrograph; (c) EDX spectrum of ground layer.

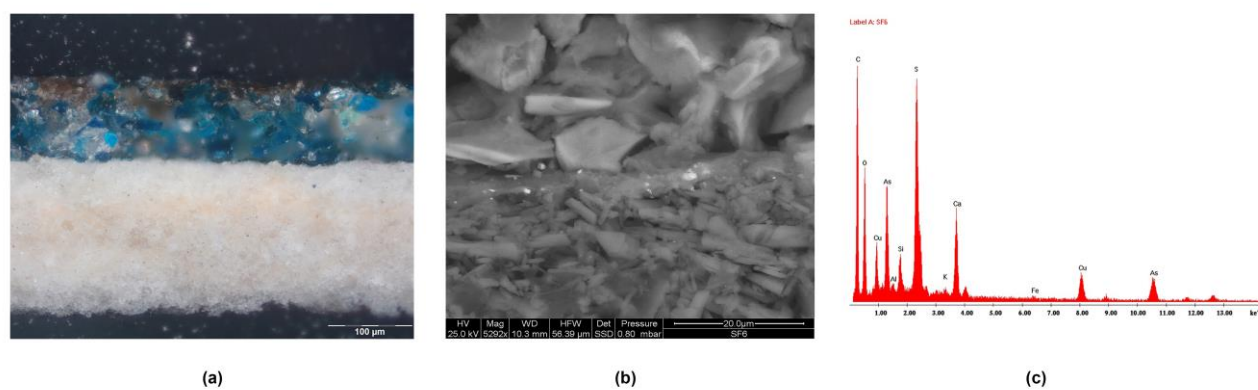


Figure S4. *Visitation* altarpiece. Sample SF6. (a) PLM micrograph of the cross-section, visible light; (b) ESEM micrograph, detail of the priming layer; (c) EDX spectrum of priming layer.

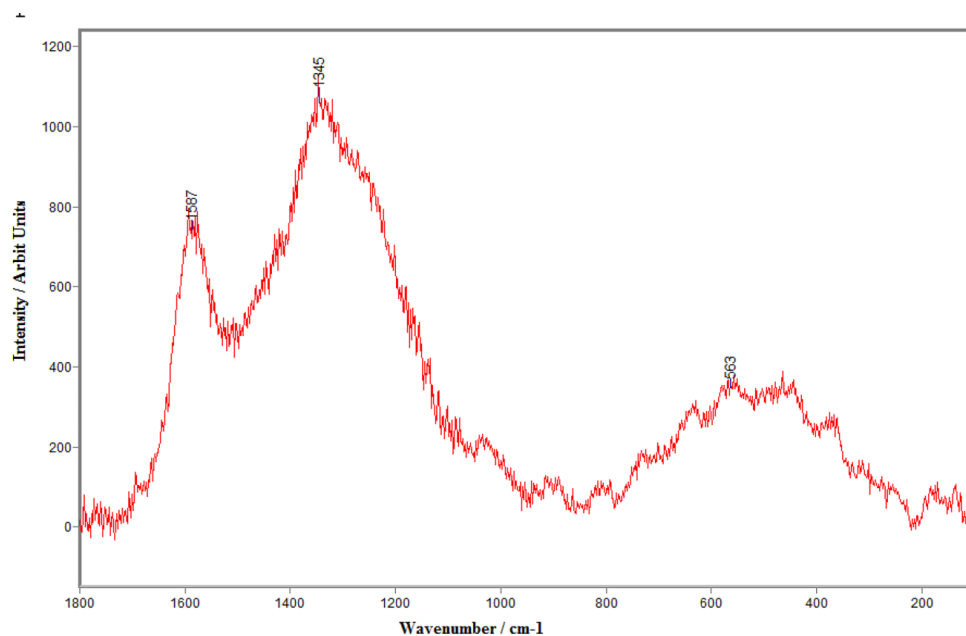


Figure S5. *Visitation altarpiece*: sample SF1, Raman spectrum of a black particle in the underdrawing.

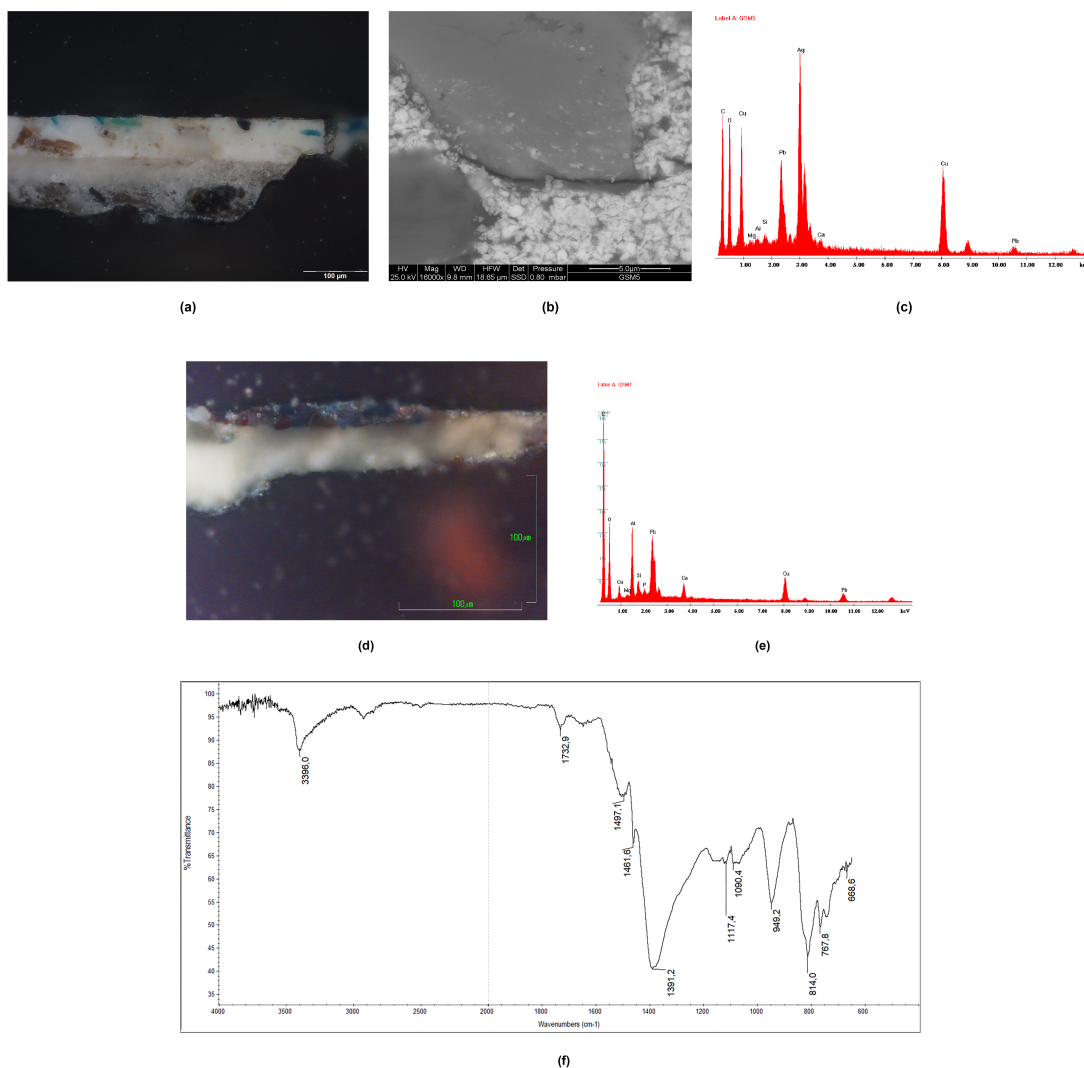
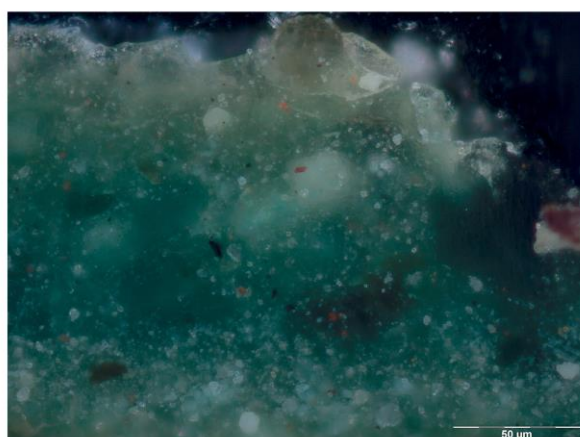
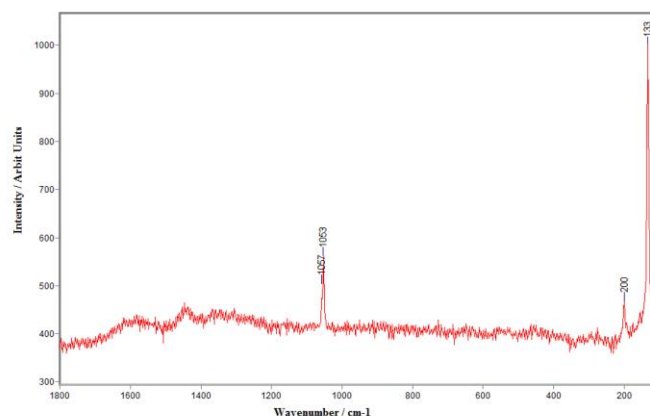


Figure S6. *Martyrdom of Saint Sebastian* panel. Sample GSM5: (a) PLM micrograph of the cross-section, visible light; (b) ESEM-BSE micrograph of azurite particle with Ag impurities; (c) EDX spectrum of blue particle. Sample GSM7: (d) PLM micrograph of the cross-section, visible light; (e) EDX spectrum of red particle; *Visitation altarpiece*. Sample SF6: (f) FTIR-ATR spectrum of blue pictorial layer.



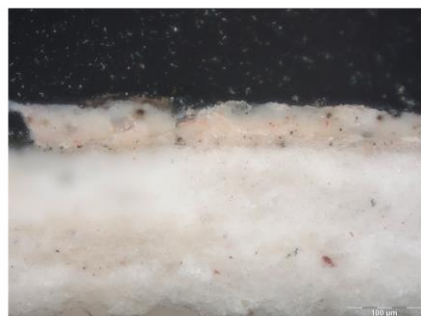


(a)

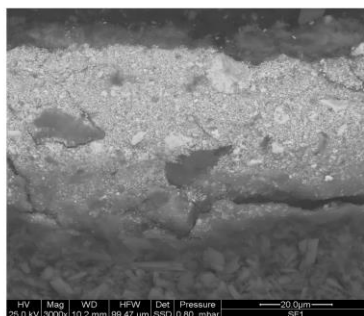


(b)

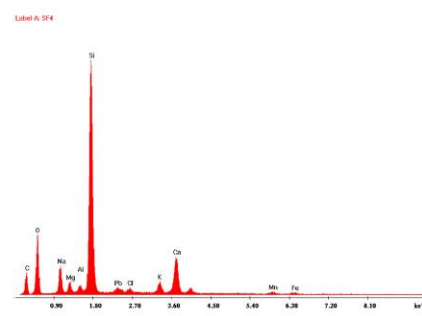
Figure S7. *Martyrdom of Saint Sebastian* panel. Sample GSM4: (a) PLM micrograph of the cross-section in visible light, detail of paint layers; (b) Raman spectra of lead-tin yellow type I with main bands of cerussite and hydrocerussite.



(a)



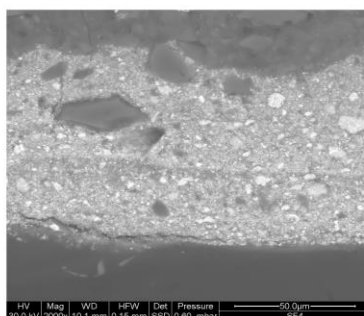
(b)



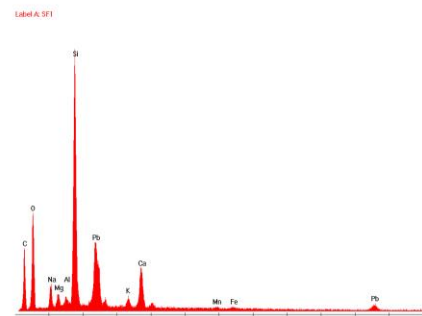
(c)



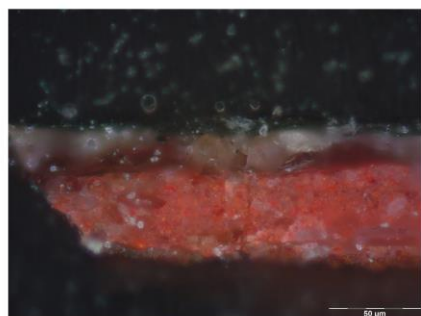
(d)



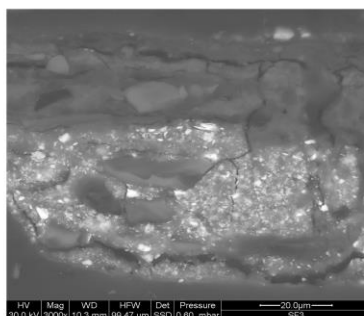
(e)



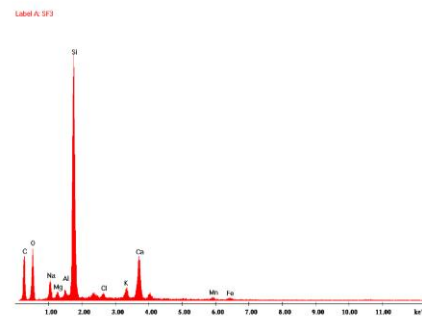
(f)



(g)



(h)



(i)

Figure S8. *Visitation* altarpiece. Sample SF1: (a) PLM micrograph of the cross-section in visible light, detail; (b) ESEM-BSE micrograph, glass particle in painting layer; (c) EDX spectrum of glass particle. Sample SF4:



(d) PLM micrograph of the cross-section in visible light, detail of painting underlayer; (e) ESEM-BSE micrograph, detail of glass particles in pinkish underpaint layer; (f) EDX spectrum of glass particle. Sample SF3: (g) PLM micrograph of the cross-section in visible light, detail; (h) ESEM-BSE micrograph, detail of glass particles in red underpaint layer; (i) EDX spectrum of glass particle.

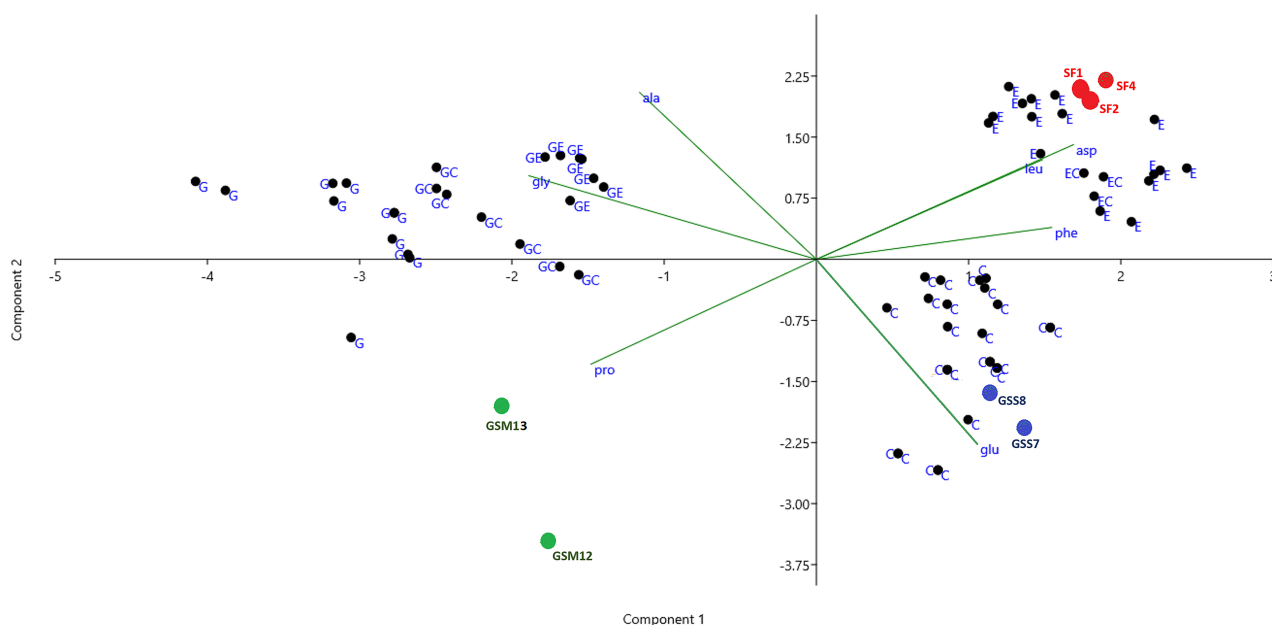


Figure S9. PCA score plot of the relative percentage contents of eight amino acids in 43 reference paint samples [25], (where G: animal glue; C: casein; E: egg; GE: animal glue and egg; GC: animal glue and casein; EC: egg and casein), and the painting samples (SF1, SF2, SF4 from *Visitation* altarpiece; GSM12, GSM13 from *Martyrdom of Saint Sebastian*, GSS7, GSS8 from *Tobias and the Archangel Raphael* canvas).