

ZADAVATEL: Mgr. Tímea Varga

ODBĚR – LOKALITA: Altobello Melone

Č. AKCE / Č. VZORKU: 22/18/64-66

POPIS VZORKŮ A MÍSTA ODBĚRU: 3 samples of colour layers

POŽADOVANÉ STANOVENÍ: material analysis

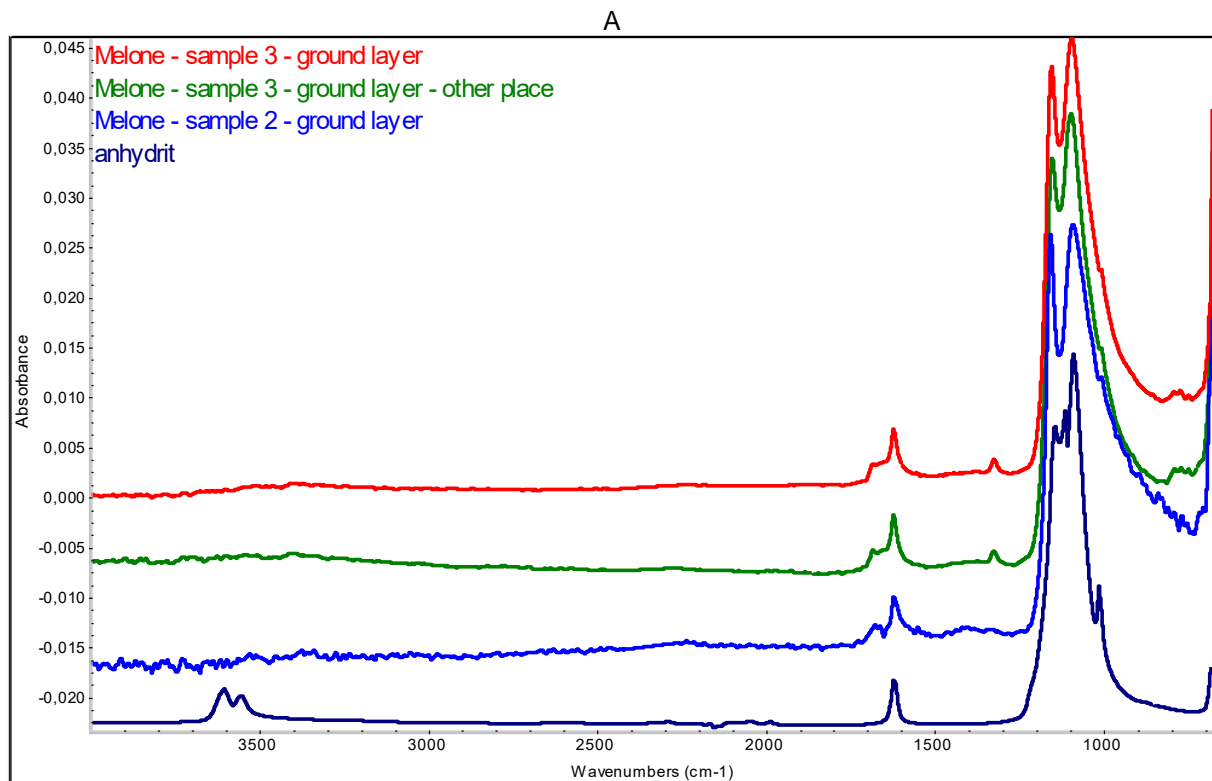
## PROTOKOL

### Procedure

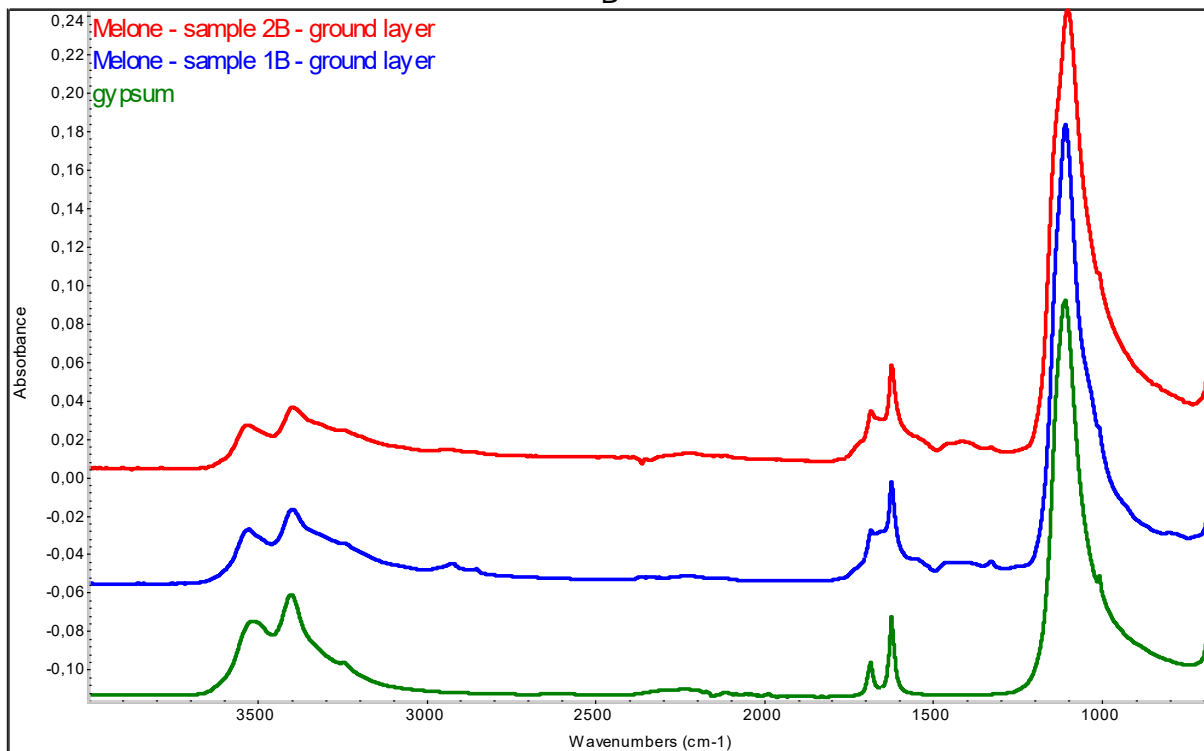
**Analysis of organic materials - varnishes and binders.** Samples - cross-sections embedded into the epoxy resin were analysed by FTIR spectroscopy on FTIR spectrometer Nicolet iN10 microscope technique ATR / Ge crystal. The spectra were compared with spectra of standards from different databases.

*The obtained spectra are not spectra of pure compounds, but spectra of mixtures. In some cases, the analysis cannot specify exactly the substance, but only the chemical group of substances, which belongs to (for example waxes, polysaccharides, ...).*

Fig. 1 A, B, C: FTIR spectra of ground layers with spectra of standards. Ground layer consists of anhydrit and gypsum (gesso).



B



C

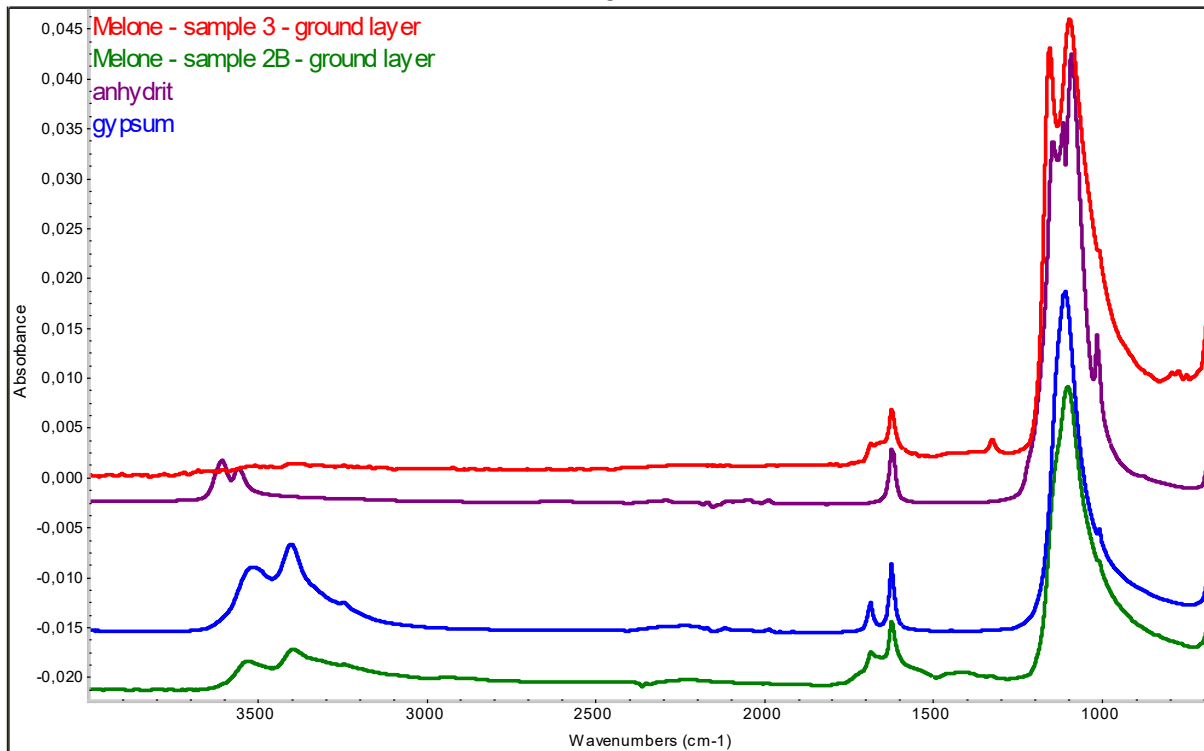


Fig. 2: Sample 1, light orange layer

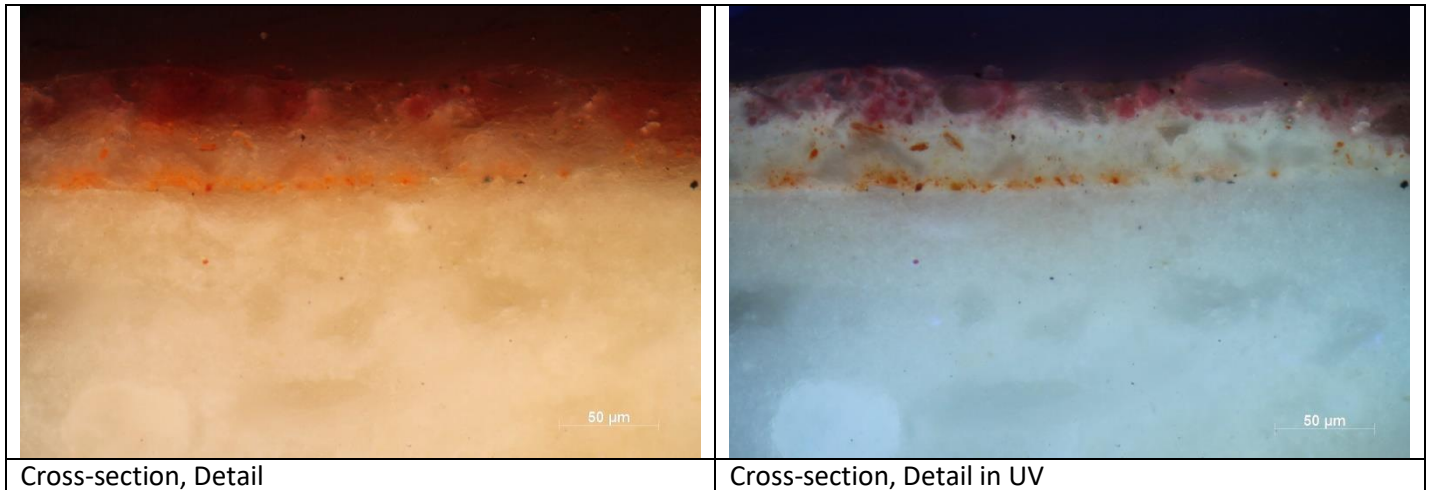


Fig. 3: FTIR spectrum of the colour layer of the sample 1 with spectra of standards. Red pigment – probably minium has not IR spectrum. Binding medium is probably mixture of protein and oil – tempera. Gypsum can also be impurity from ground layer.

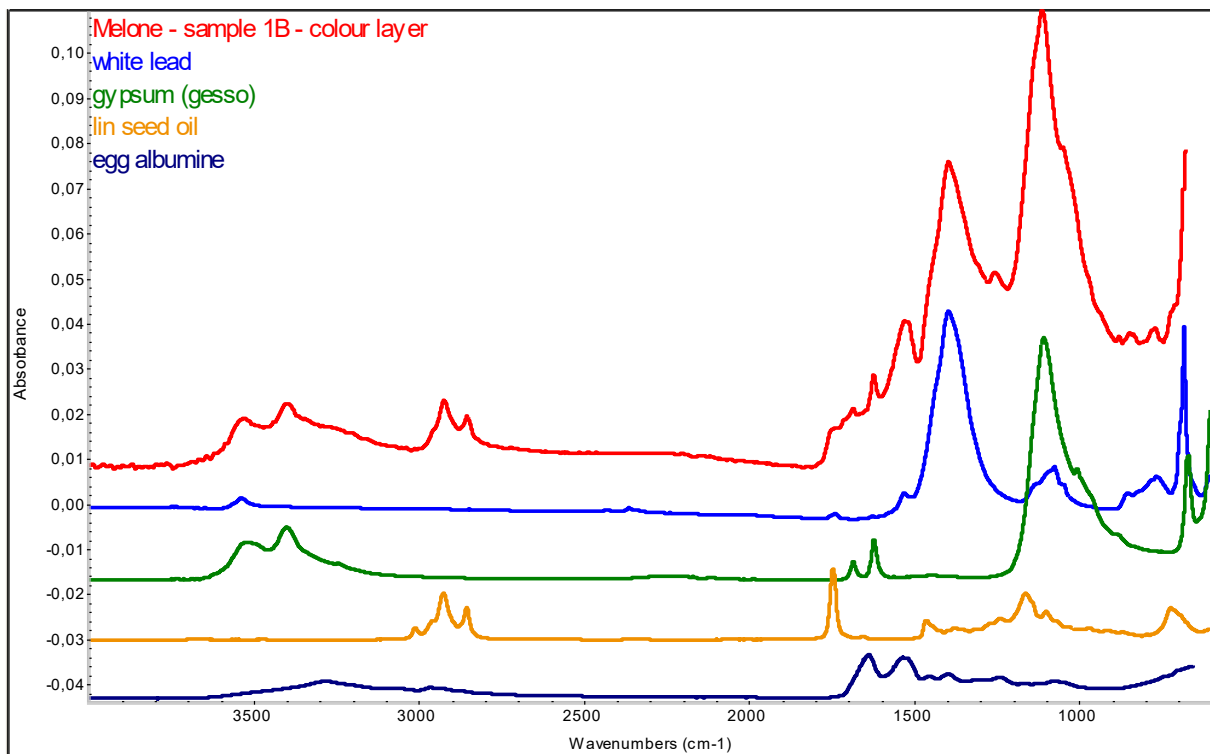


Fig. 4: Sample 2, blue layer

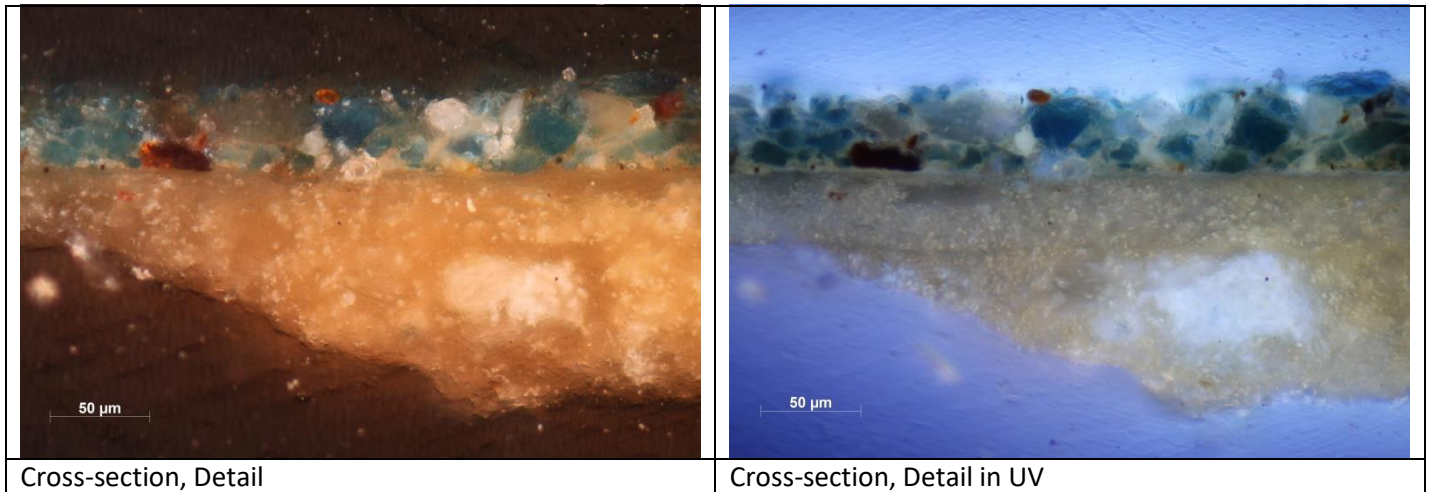


Fig. 5: FTIR spectrum of the colour layer of the sample 2B with spectra of standards. Azurite, lead white and gypsum (impurity from ground layer) were found. Binding medium is oil, but the presence of protein cannot be excluded.

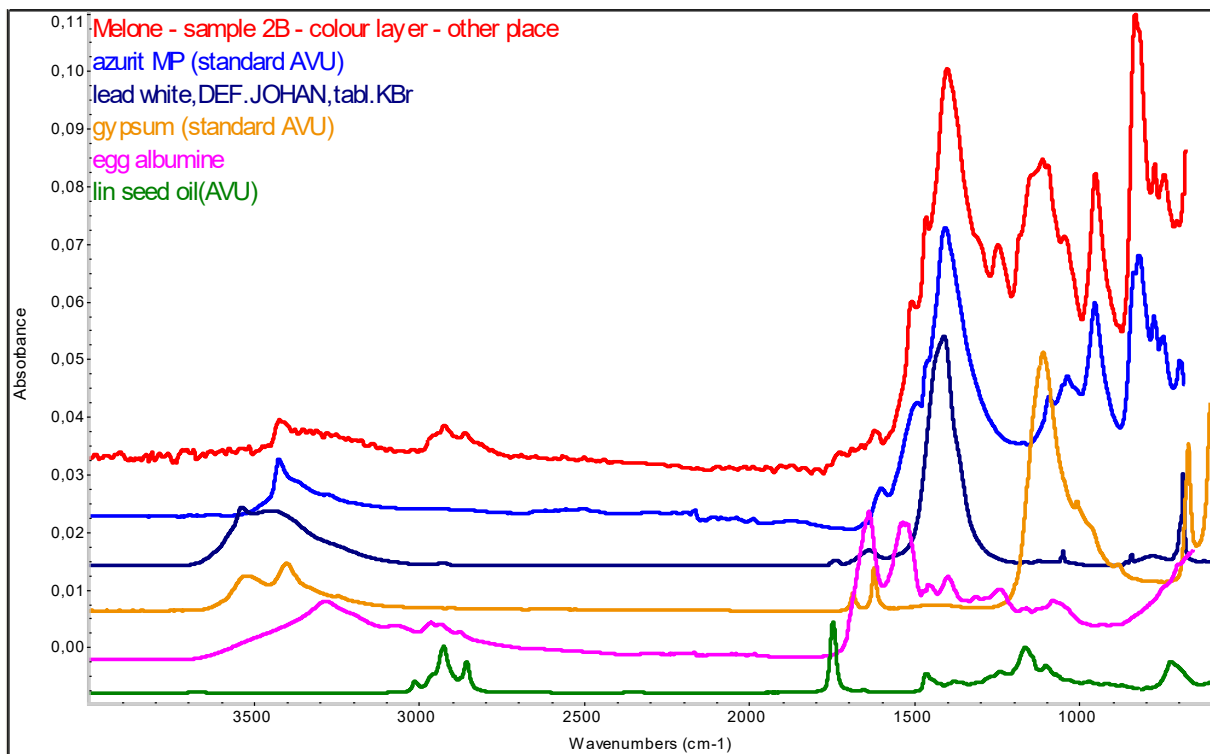


Fig. 6: Sample 3, green layer

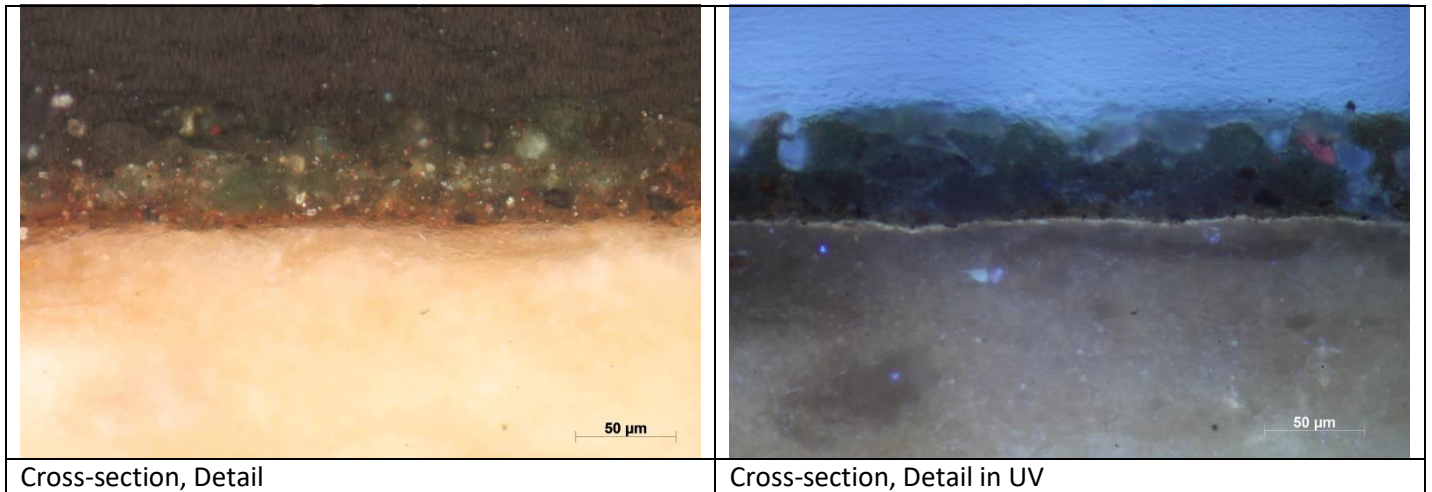
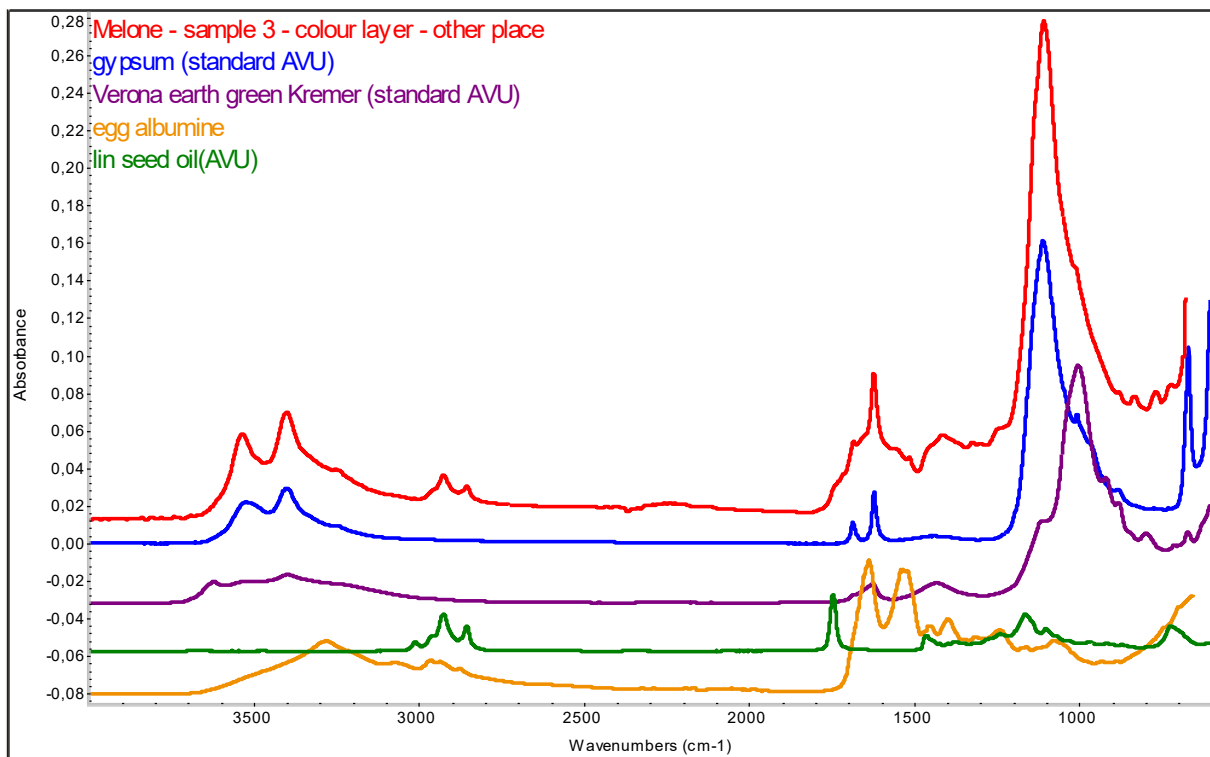


Fig. 7: FTIR spectrum of the colour layer of the sample 3 with spectra of standards. Clay green pigment and gypsum were found. Binding medium is oil, but the presence of protein cannot be excluded.





## CONCLUSION:

Ground layer consists of anhydrit and gypsum (gesso).

Binding medium of colour layer is probably mixture of oil and small part of protein. The presence of oil is certain, but the presence of protein cannot be excluded.

In the samples the pigments were identified: azurite, lead white and Verona earth green. *Some pigments (such as minium) have not a spectrum in the IR range.*

Total 6 pages

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