

SUMMARY

The task of this diploma thesis was to investigate the influence of inorganic pigments on the identification of casein oil and animal glue tempera by mass spectrometry MALDI-TOF MS (Matrix-Assisted Laser Desorption/Ionisation – Time of Flight Mass Spectrometry). First, it was necessary to prepare a set of model colour layers containing casein and animal glue tempera together with ten inorganic pigments. Consequently, the method of peptide mass fingerprinting was used to obtain mass spectra of the samples. Finally, it was possible to compare and determine the characteristic peptide fragments for both proteinaceous binders and find pigments that most affected the identification of casein and rabbit glue temperas.

The obtained values of m/z casein oil tempera and animal glue tempera were used to improve and complete reference database of protein binders that is used to identify protein binders in works of art at the Institute of Chemical Technology in Prague.