

SUMMARY

This thesis named „Analysis of natural organic dyes and pigments by mass spectrometry“ investigates the identification of selected natural organic dyes and pigments by qualitative Laser Desorption/Ionisation – Time of Flight Mass Spectrometry analysis (LDI-TOF MS). The advantage of LDI-TOF MS method is its quick and reliable identification of low molecular weight material without preparatory chemical or time-consuming modification of samples. This method can be used for the analysis of works of art or for verifying their authenticity thanks to requiring only a little amount of sample.

The LDI-TOF MS was tested on 19 organic dyes and pigments (e.g. alizarin, apigenin, baicalein, flavone, xanthone, tannic acid), four exemplarily prepared lakes (alizarin, purpurin, chrysin a quercetin lakes) and lakes mixed with organic binding media. The method was also successfully applied to two samples of blue color that were taken from Josef Čapek's painting called 'Procházka' (The Walk), that was dating back to 1936.