The following research was dedicated to the investigation of emission spectra of different elements and their usein the analysis of clues. The used equipment was a spectrometer, the "Red Tide Usb-650", and an application called "Overture". The spectrometer has a spectral range from 350 nm to 1000 nm. it's a very lightweight and portable device,not taking up much space and weighting only 190 g. The sensitivity of the device is 75 photons at a wavelength of 400nm. The optical resolution of the spectrometer is 2 nm, while the program can display accurate graphs with a resolutionof up to 0.1 nm. The spectrometer's integration time ranges from 3 ms to up to 65 seconds, but typically it doesn'texceed 15 seconds. For very precise data recording the spectrometer can also use the optic fibres. The used program hasa library of emission spectra of different elements. The experiment is performed by making the substance to emitphotons by exciting it. The light from this substance is received by the spectroscope and the data are transmitted to thecomputer. The program generates an "Intensity-Wavelength" graph right away. But to analyse and to detect elements inclues a graph is not the only required thing. Luckily, we have access to the emission spectra library built into theprogram. Those can be enabled and disabled to detect if the given element is present in the earlier analysed substance.
Such a method can be used to detect elements in clues using spectral analisys at remarkable speeds and accuracies.