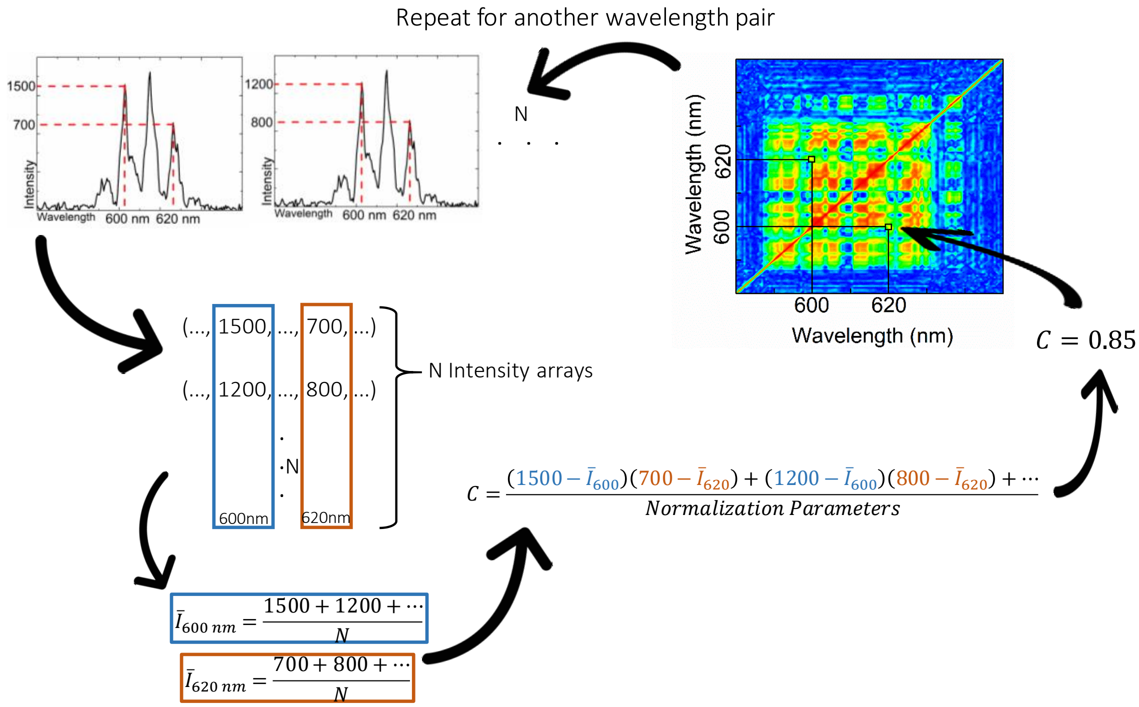
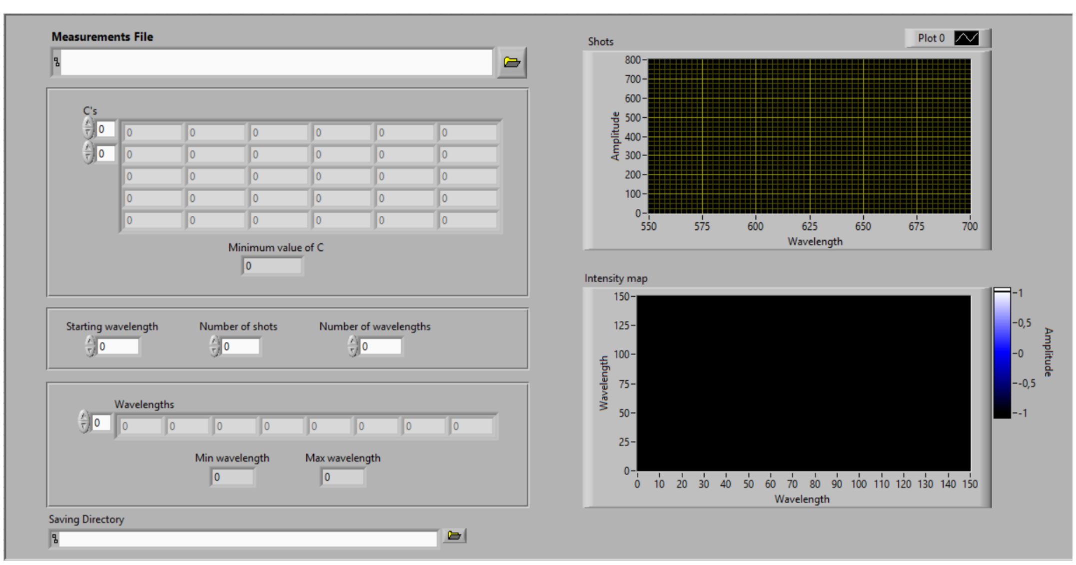
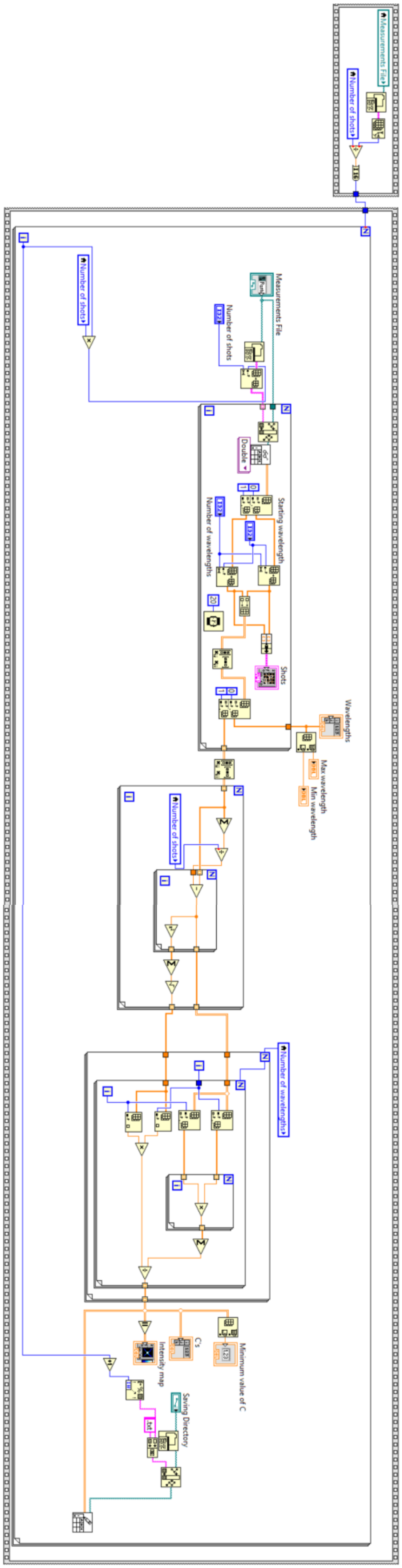
Supplementary Data

- Schematic diagram from getting the emission spectra to produce the 2D correlation map. Maps, emissions and values are merely illustrative.



- Front end of the LabView program written to produce the correlation coefficient map. The input are .txt files of the N emission spectra. The output is the heatmap of the Pearson Correlation Coefficient. The software performs all the calculation described in the scheme above.





- Block diagram of the program used to perform the correlation maps. From left to right, the processes are: open and read the file with all the emission spectra cutting the unnecessary wavelengths; get the intensity values of each wavelength for all the spectra; perform the parts of the calculation of the Pearson correlation equation that refers to only one wavelength; finish the Pearson coefficient calculation by multiplying and summing by pairing all the possible pairs of wavelengths; Output the C values and the correlation map and save the C table in a .txt file.

- Correlation map blue area due to a blueshift in the emission spectra as a function of time. Pearson correlation map of the first 100 shots (a). The area highlighted by the square is a negative correlation region between wavelengths marked amid the dashed lines. The first and last emission spectra of the set of spectra considered (b). The gray areas are the dashed lines correspondent in the emission spectra. Due to the blueshift of the spectra of about 1.3 nm peak to peak, the left gray region is decreasing in intensity while in the right gray region, the intensity is increasing. So, if we would plot the intensity for a wavelength of the left region and one in the right, it would result in a negative slope line. This is exactly what means the C coefficient, leading to a C < 0.