**In the aftermath of the coronavirus pandemic, and in response to Foundation for Polish Science call, a new expansion of the project has been initiated in 2020 also in collaboration with prof. Marcin Drąg. The title of the new project was “New detection methods for SARS-CoV-2-Mpro and SARS-CoV-2-PLpro proteases involved in COVID-19 development”.**

**The overall research objective of this project is to design and synthesize advanced, emissive dyes and to apply them as fluorescent reporters in activity-based probes for SARS-CoV-2** **proteases imaging.** This new generation of fluorescent platforms will possess the following properties: (a) large brightness (product of fluorescence quantum yield and molar absorption coefficient); (b) good photostability; (c) narrow emission. The major challenge in this project is that one has to optimize in parallel all above-described properties but at the same time to maintain small size of fluorophores so that: (a) they do not induce precipitation of the final small peptide; (b) they do not interfere with protease-peptide recognition process.