Impacts of Industrial Requirements in the Context of a PhD Thesis in Microfluidic

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ABSTRACT

Macromolecular crystallography is one technique applied to obtain the three-dimensional structure of macromolecules such as proteins, and eventually help in providing information to understand the interactions and functions among them. The implementation of microfluidic-based serial crystallography applied to the domain of macromolecular crystallography will bring major opportunities to the field. These new developments will allow working on unfrozen crystals, in addition of mastering the crystal environment, injecting ligands, providing access to diffraction experiments on biologically hazardous molecules, and more. In this context, a Master's internship on microfluidic applied to macromolecular crystallography initiated the work at the initiative of Synchrotron SOLEIL. Following these successful developments, the SERVIER Institute was persuaded to finance a full PhD thesis for further applications.

During the presentation, I will report on the beginning of the thesis. Thus, I will briefly introduce the subject of the work, including what has been developed during the internship and then followed by few developments made at the start of the thesis. During the talk, I will attend to show the various advantages lying at the interface of a pharmaceutical company and an academic-oriented laboratory, for the SERVIER Institute and the Synchrotron SOLEIL.