

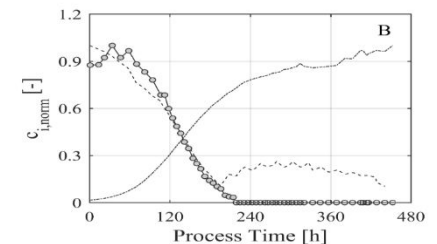
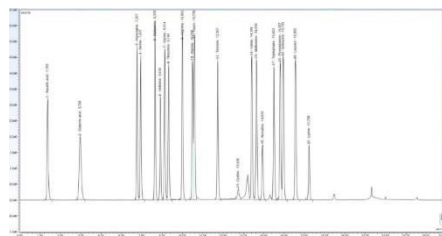
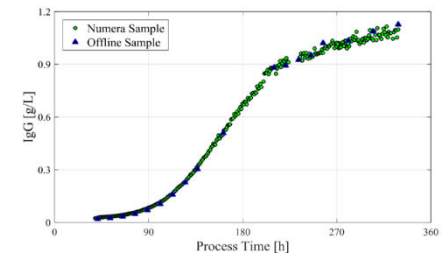
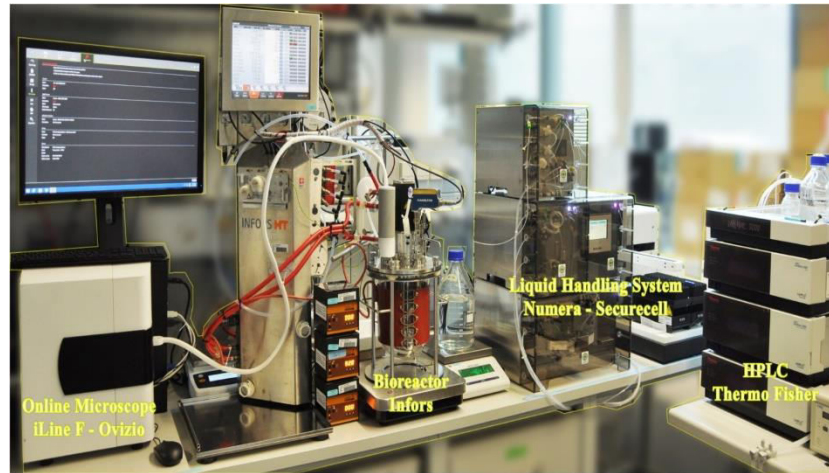
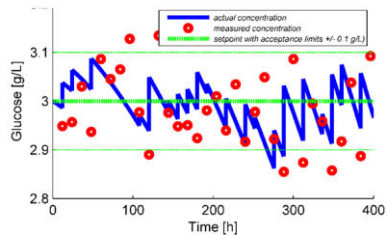
## Goal

- Automated sampling and analysis by HPLC and enzymatic analyzers in a CHO and microbial processes
- Facilitate fully automated process monitoring and control, for example..
- ....Rational media and feed design, monitoring and control... !

## Approach

- Establish on-line analytics with Amino Acids, Vitamins, Sugars, Cells & Product... in real time and as retain samples...
- Integrate HPLC but also Cedex Hires and Cexed BioHT online
- Run cultures with CHO and microbial under industrial relevant process conditions

Low precision



## Novelty

- Robust solutions far beyond academic fields
- External filtration device
- Sample with or w/o cells
- High precision measurements with gold standards only

## Outlook

- Integration in model predictive control context
- Automated workflows for rational media and feed design
- Parallelize for multi reactor systems.