

Scientific Objective:

Surpassing the first step of molecule production (usually reachable in batch mode) and reaching the best titres, productivities and yields via the management of the cellular activity essential for its robustness.



OSCAR bi stage bioreactor with membrane recycling



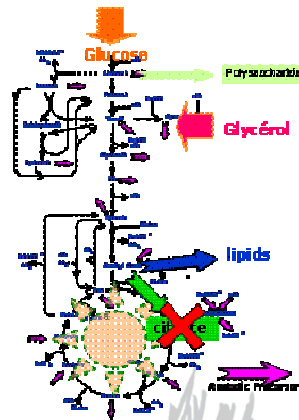
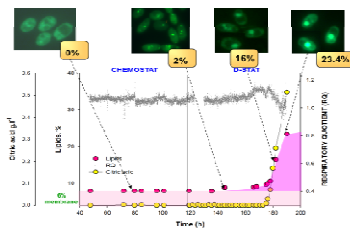
HDMB Bioextrusion-fermentation bioreactor



isPC²B *in situ* Physico-Chemical Characterization Bioreactor

Highlights: Oleaginous yeasts (8 papers, 3 patents)

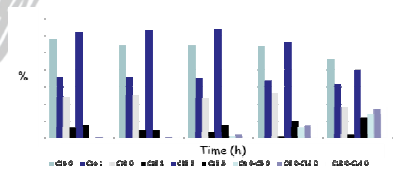
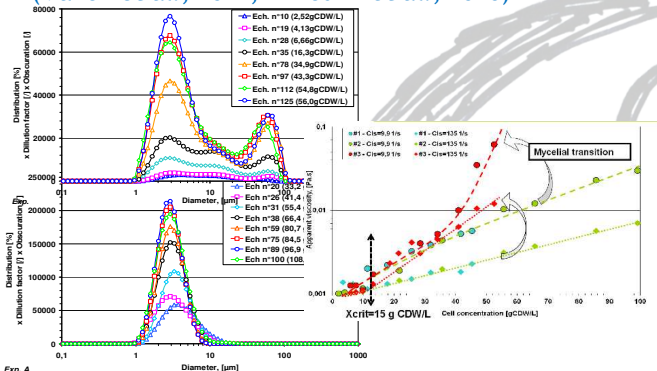
Kinetic analysis of metabolic shifts at macroscopic, transcriptomic (Cescut et al. 2011) and proteomic levels (Ochoa et al., 2014)



Amplification lipids accumulation
(Patent11-59361)

150 kg_{dcw}·m⁻³
0.44 - 0.75 g_{lipid}/g_{biomass}
0.31 kg·m⁻³·h⁻¹

Cell morphology & Rheology (Manon et al., 2011, Timoumi et al., 2016)



Modulation of carbon chain length
(Patent submitted)

(coll. Micalis, LISBP EAD1)