

Scientific Objective:

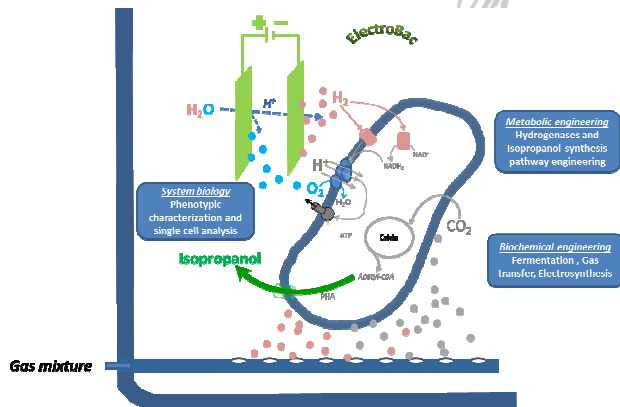
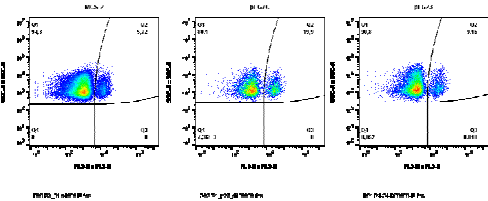
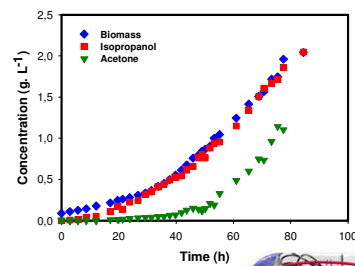
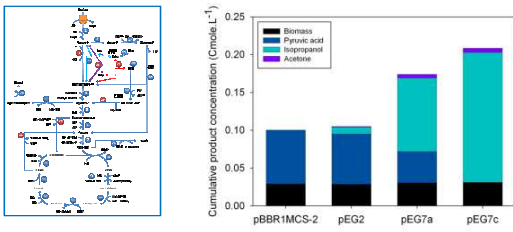
Investigating the physiology of naturally or engineered autotrophic microorganisms and developing performant robust strain/bioprocess for the production of biochemicals from CO₂ and derivatives

Highlights: microbial engineering (4 papers, 2 patents)

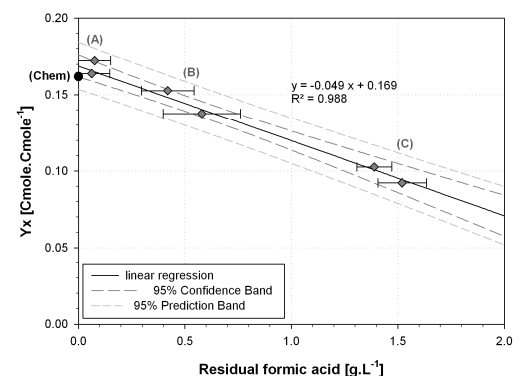
Metabolic engineering of *Cupriavidus necator* and Robustness management for :

- ✓ Alka(e)ne production (Crepin et al., 2016)
- ✓ Isopropanol production (Grousseau et al., 2014 ; Marc et al., 2017)

Autotrophic production of biochemicals (isopropanol, alka(e)nes) in gas bioreactor (Crepin et al., 2016 ; Marc et al., 2017)



Fed-batch process design for growth on formic acid / $\mu_{max}=0.18h^{-1}$, >85% of the Y_{sx} (Grunwald et al., 2014)



Coupling CO₂ Fermentation & Microbial Electro-synthesis (MES) (Sydow et al., 2017)