

Scientific Objective:

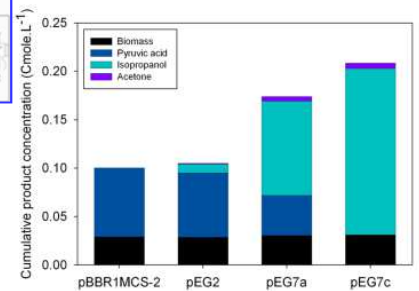
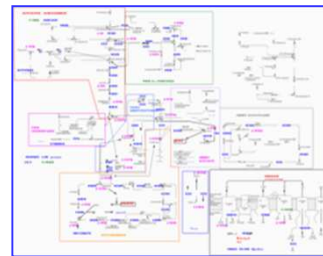
Investigating the physiology of naturally or engineered autotrophic microorganisms and developing performant robust strain/bioprocess for the production of chemical synthons from CO₂

Highlights: microbial engineering (3 papers, 2 patents)

Expression of Calvin pathway in yeast: characterization of the efficiency of the synthetic pathway

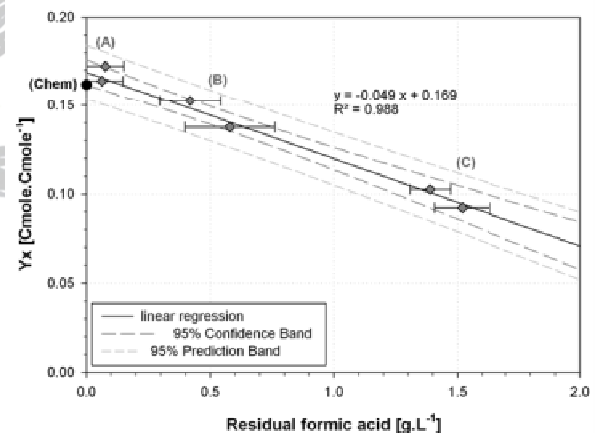
(2 Patents)

Collaboration LISBP-EAD11, EAD3 - TWB
Licence EnobraQ

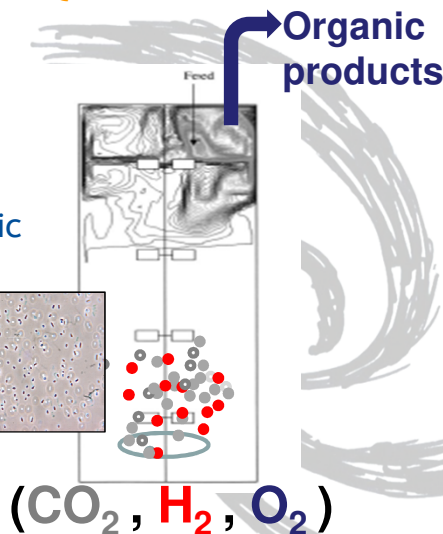


Engineering of natural autotrophic bacteria for alcohols production: 11 g/L isopropanol, 66% of Y_{sp} (Grousseau et al., 2014)

Collaboration MIT

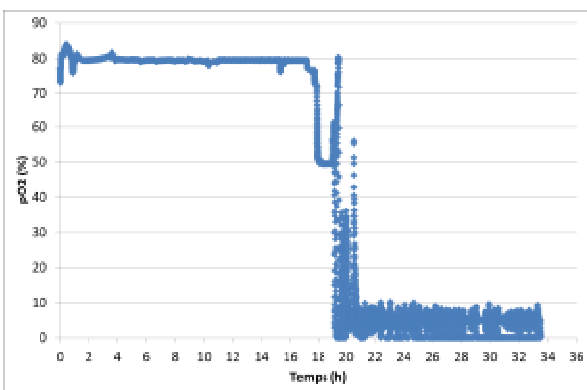
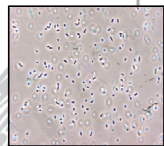


Fed-batch process design for growth on formic acid / $\mu_{max}=0.18h^{-1}$, >85 % of the Y_{sx} (Grunwald et al., 2014)



(CO₂, H₂, O₂)

Metabolic engineering of *Cupriavidus necator* for heterotrophic and autotrophic alka(e)ne production (Crepin et al., 2016)



Fed-batch process design for growth controlled by H₂O₂ supply under low dissolved O₂