

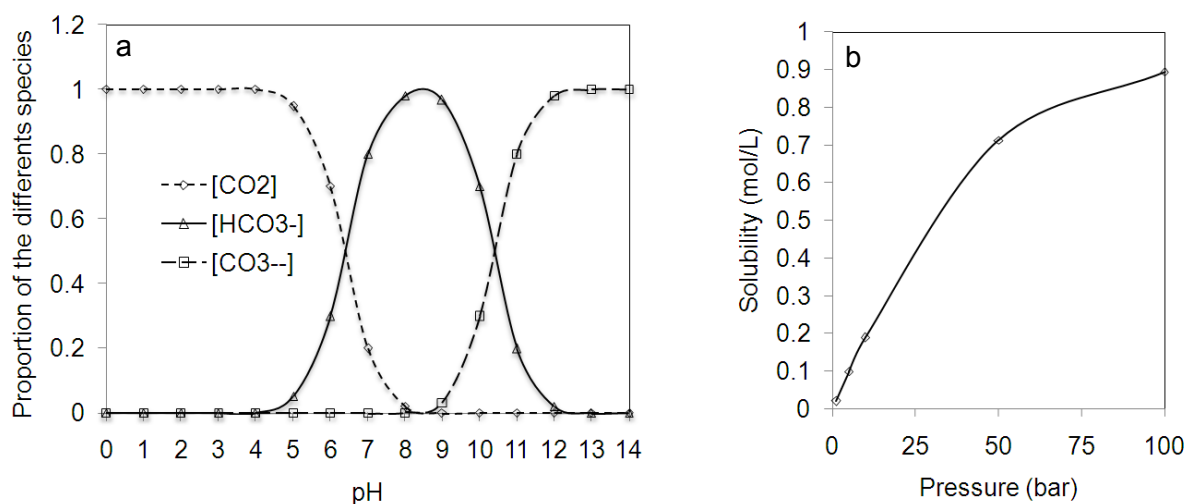
## Supplementary informations

### **CO<sub>2</sub> reduction into methanol by a polyenzymatic system encapsulated into phospholipids/silica nanocapsules**

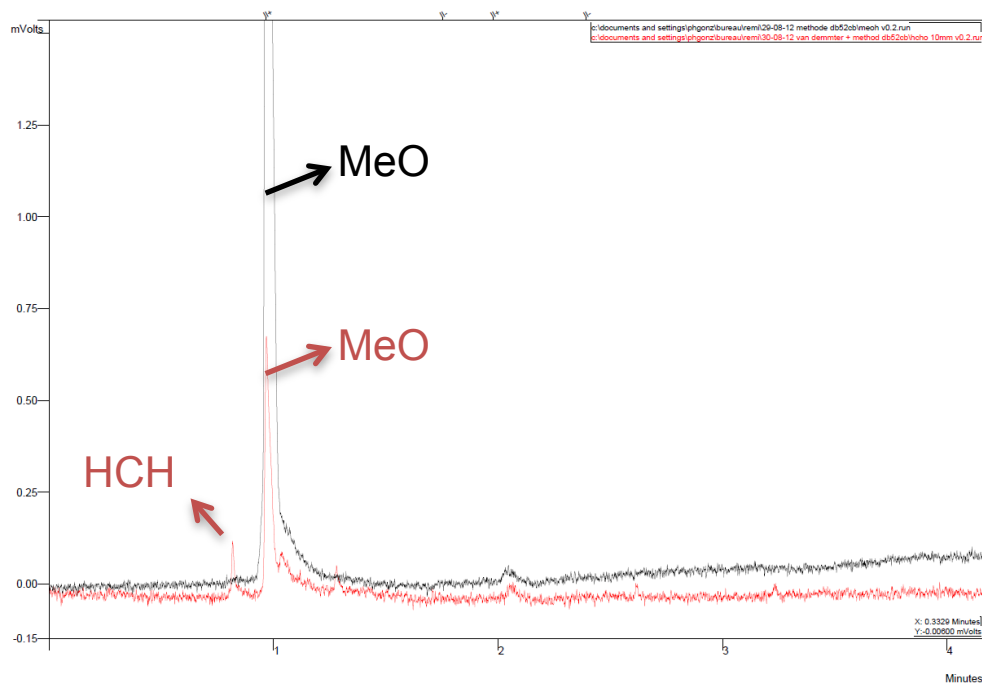
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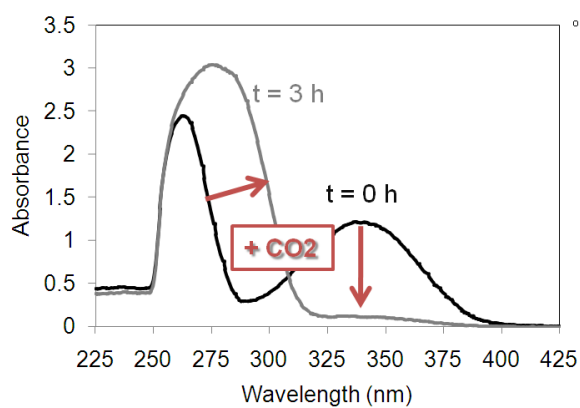
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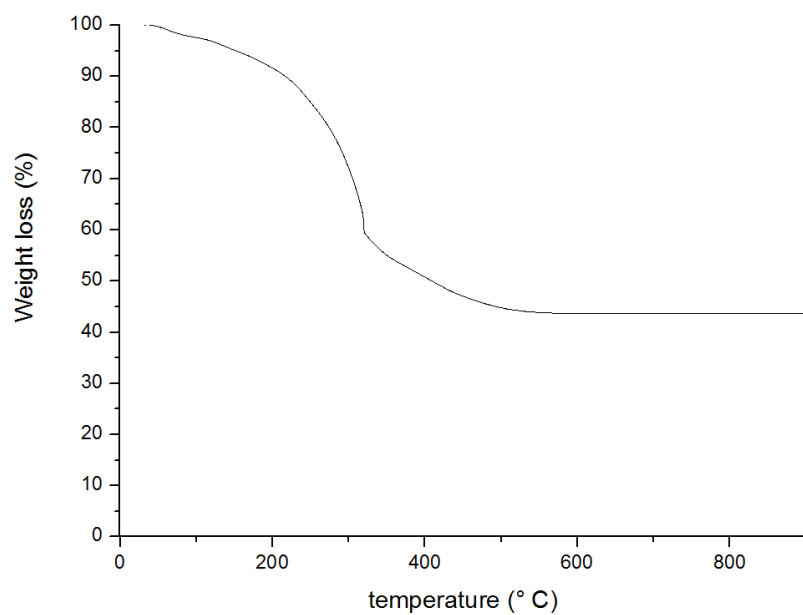
**Fig. S1** a) CO<sub>2</sub> availability as a function of pH b) CO<sub>2</sub> solubility as a function of pressure



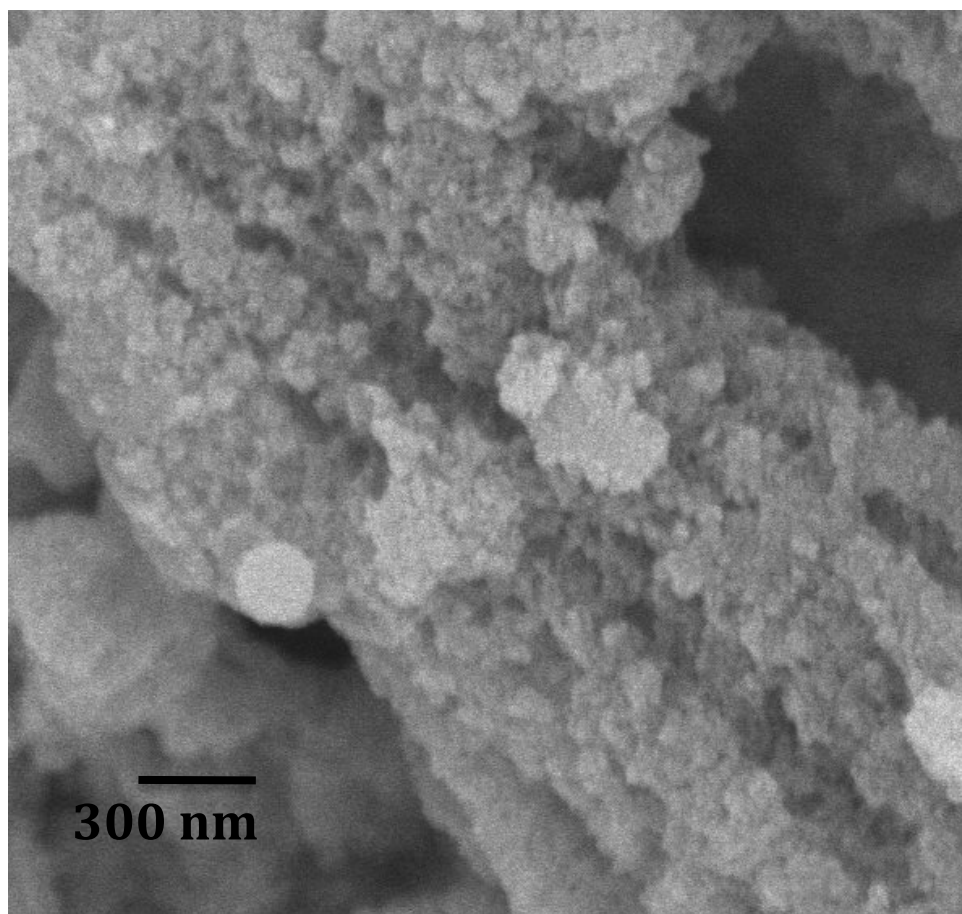
**Fig. S2.** Chromatograms showing MeOH and formaldehyde. Methods: Polar Column (polyethyleneglycol) CP-Wax52CB (25x0.32x0.2) ; Injecteur CP1177 ; T<sub>injection</sub> : 230 °C (mode split 1:10); Flow : 1.5 mL/min ; T<sub>oven</sub> : 55 °C, 2 min, 250 °C, 20 °C/min, 250 °C, 2 min.



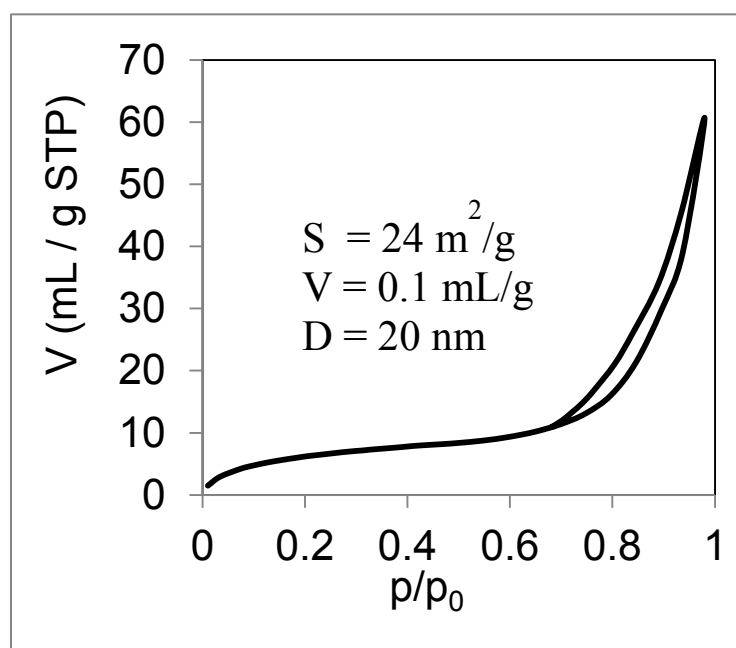
**Fig. S3.** Changes of the NADH absorbance spectra after incubation 3h at 37 °C under 5 bars of CO<sub>2</sub>.



**Fig. S4.** Typical TGA of enzymes encapsulated in NPS



**Fig. S5.** SEM image of enzymes encapsulated in NPS



**Fig. S6.** Nitrogen adsorption/desorption at 77K of enzymes encapsulated in NPS