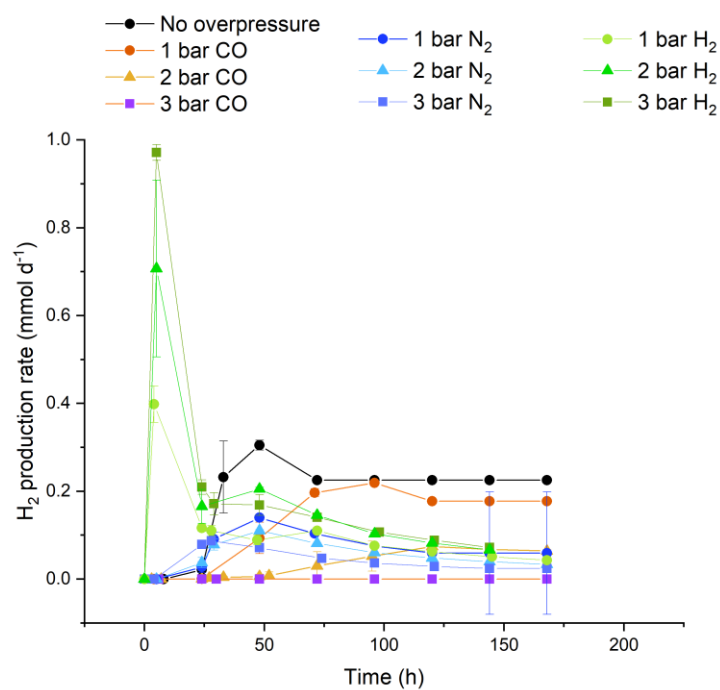# Suplementary material

Figure S1. Hydrogen production rate in the different partial pressures evaluated.
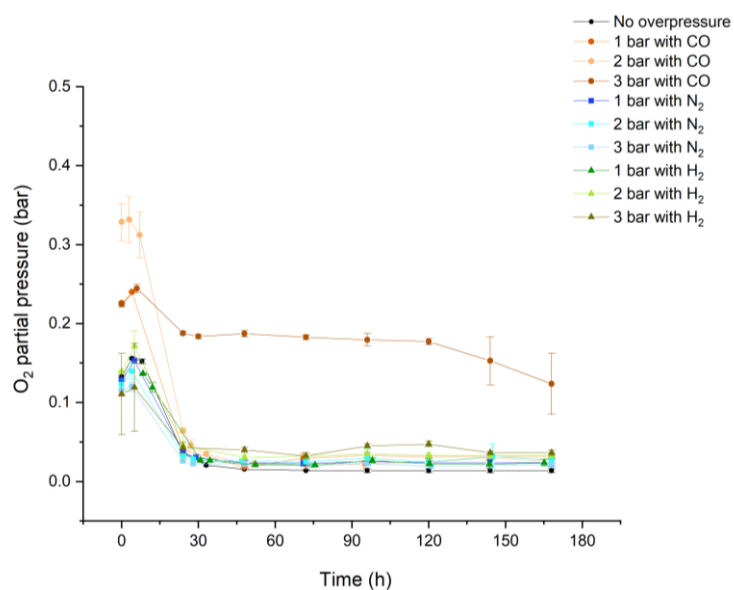

Figure S2. Oxygen partial pressure for all fermentations.
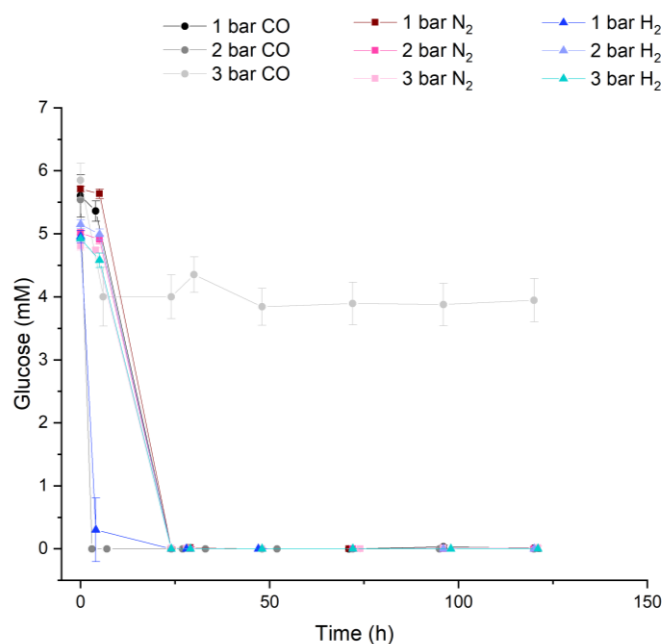
Figure S3. Glucose consumption over all fermentations.

Electron selectivity

Following Equation 1, the electron fluxes were calculated considering the conversion factors and the amount of each compound.

$$e^-mmol_X = \dot{n}_X * eeq_X \tag{1}$$

Where $\dot{n}_X$ is the daily uptake rate of the substrates or the daily production rate of the products and eeq_X is the electron equivalents for each compound.

The Equation 2 was used to calculate the selectivity of the process towards the products.

$$e^-mol\ Selectivity\ [\%] = \frac{\sum e^-mmol_{Products}}{\sum e^-mmol_{Substrates}} * 100\% \tag{2}$$

The sum of the daily e^-mol from carbon monoxide (CO) and glucose was the $\sum e^-mmol_{Substrates}$, while the sum of the daily e^-mol from acetate, formate, lactate and propionate was presented as $\sum e^-mmol_{Products}$. However, this was decided only when consumption of the metabolites was not observed, when consumed, they were accounted as substrates in the balance.

Table S1. Conversion factors

Compound	Molecular Weight (g/mol)	mol e⁻/mol
CO	28.0	2
CO_2	44.0	0
Hydrogen	2.0	2

Glucose	180.1	24
Formate	46.1	2
Acetate	60.0	8
Lactate	90.0	12
Butyrate	88	20
Propionate	74.0	7
Valerate	102	15
Iso-butyrate	88	20
Iso-valerate	102	15