



Using bacteria to convert biomass into chemicals: the Acetone Butanol Ethanol process

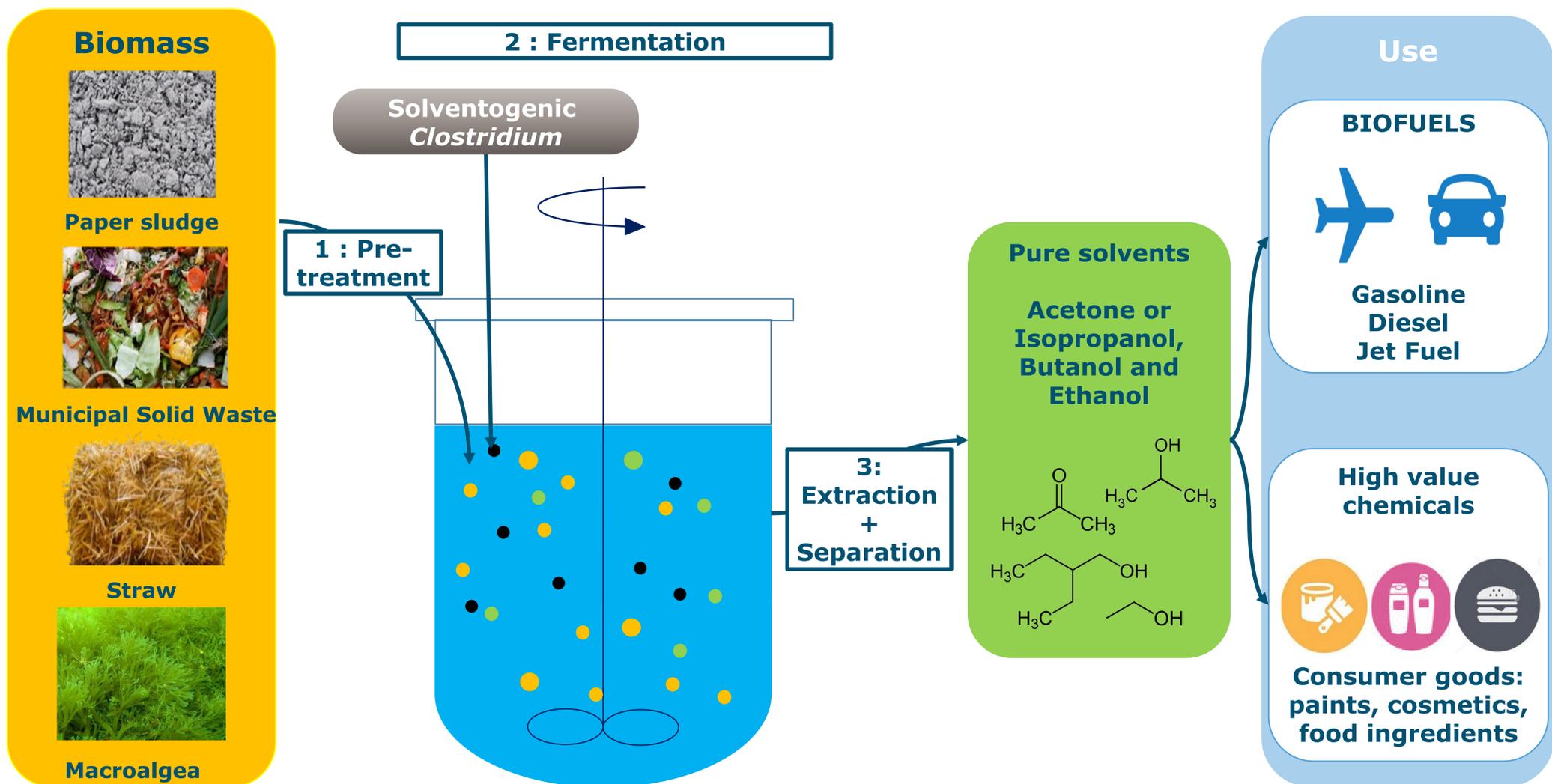
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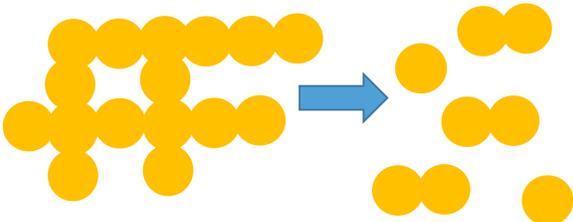
Project aim :

Characterisation of sporulation in solventogenic Clostridia to increase substrate use, yield and productivity



STEP 1: Pre-treatment

Breaking down the sugar polymers into monosaccharides



Current methods:

Physical, chemical and enzymatic

Challenges:

Expensive pre-treatments and enzymes

STEP 2: Fermentation

Converting the monosaccharides into solvents using solventogenic *Clostridium*



Challenges:

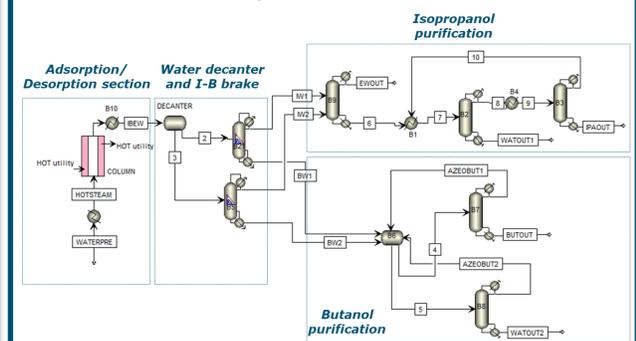
Low yield and productivity, product toxicity

My project:

Strains with controlled sporulation for higher yields and productivity

STEP 3: Extraction and Separation

Extracting and separating the products



Current method:

Distillation

Challenges:

Low product concentration in the broth → High separation costs



Acknowledgements

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