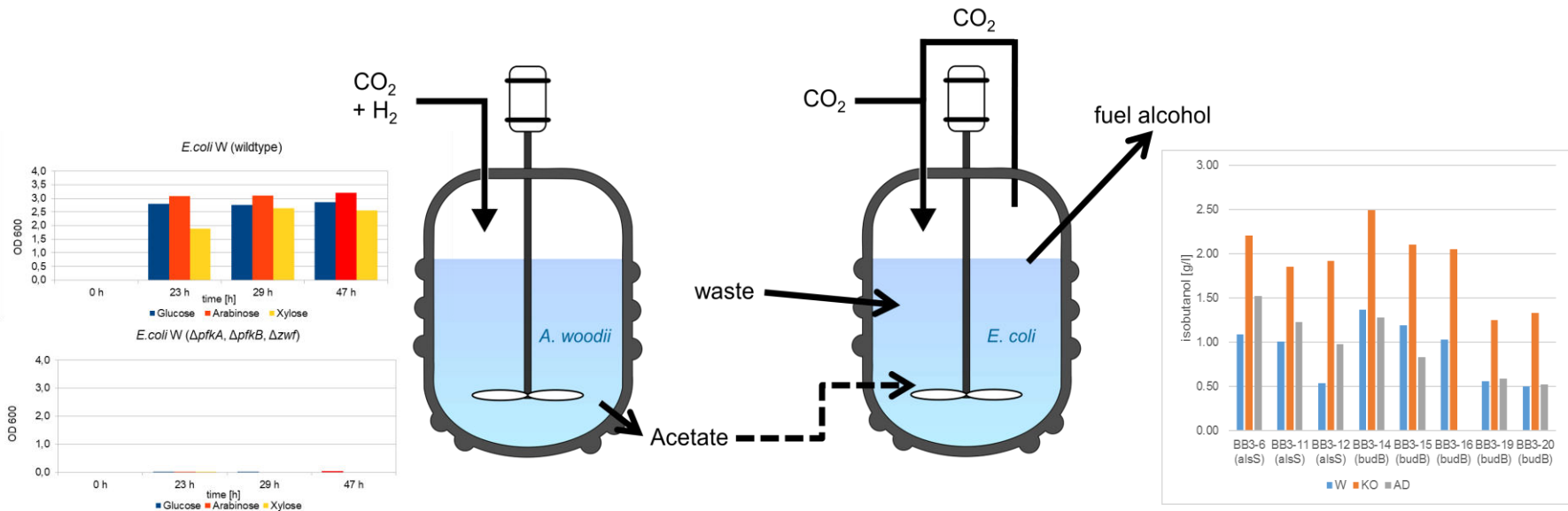


## Goals

- Proof-of-principle of net CO<sub>2</sub> fixation bioprocess
- Energy storage in the form of valuable carbohydrates
- Use of real flue gas streams by industrial partners

## Approach

- Genetic Engineering (Golden Gate, CRISPR/Cas9)
- Quantitative bioprocess development
- Advanced process analytics
- Energy for fixation using communal waste



## Novelty

- Coupled process of extremophiles and recombinant hosts
- Use of industrial flue gas streams for CO<sub>2</sub> fixation
- Yield enhancement by CO<sub>2</sub> recirculation

## Outlook

- Targetting higher value added products
- In-silico predictions using kinetic metabolic models
- Coupling with chemical reactions