

BETIC

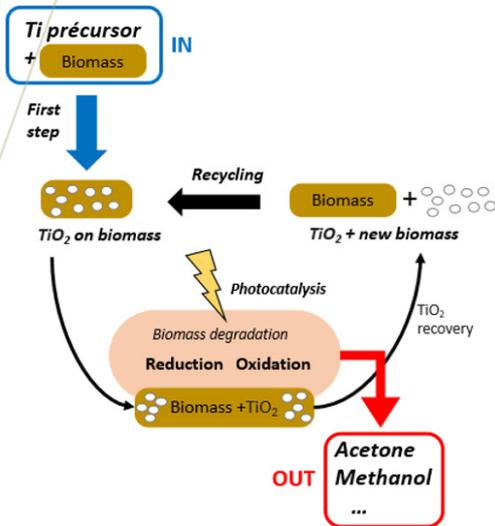
Biomass conversion process into biofuels using a photo-catalyst agent based on titanium dioxide (TiO₂).

ERG\NEO

L'AVENIR EST FAIT D'AUDACE

PRESENTATION

A new biomass conversion process producing biogas and biofuels. Titanium dioxide crystal clusters are grown onto green wastes in a solvent-free process creating a photo catalyst-feedstock pair. The degradation of the green wastes occurs during exposure to visible light irradiation. After total degradation, the recovered TiO₂ is combined with new green wastes to form a new photo catalyst-feedstock pair, ready for the degradation step. This efficient circular process insures that TiO₂ dissemination into the environment does not occur.



Biomass conversion - Biogas and biofuels production
Photocatalysis - Energy production

APPLICATIONS

- Green waste processing
 - Algae
 - Sludge from Wastewater treatment plant
 - Pulp and paper industry wastes
 - Other types of biomass
- Degradation products
 - Liquid phase: alcohols (isopropanol, methanol, etc), acetone, acetic acid.
 - Gas phase: alkanes (methane, etc), CO, CO₂, etc.

DEVELOPMENT PHASE

- ☑ TRL 4 (laboratory scale)
- ☑ Target: scale up into pre-pilot in 2022

INTELLECTUAL PROPERTY

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CONTACT

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COMPETITIVE ADVANTAGES

- Biomass conversion into biogas and biofuels
- No release of TiO₂ in the environment
- Circular process
- All steps in the process can be carried out in the same place