Terephthalic Acid Synthesis from Ethanol via p-Methyl Benzaldehyde

LanzaTech
capturing carbon. fueling growth.

Pacific Northwest
NATIONAL LABORATORY

Goal:

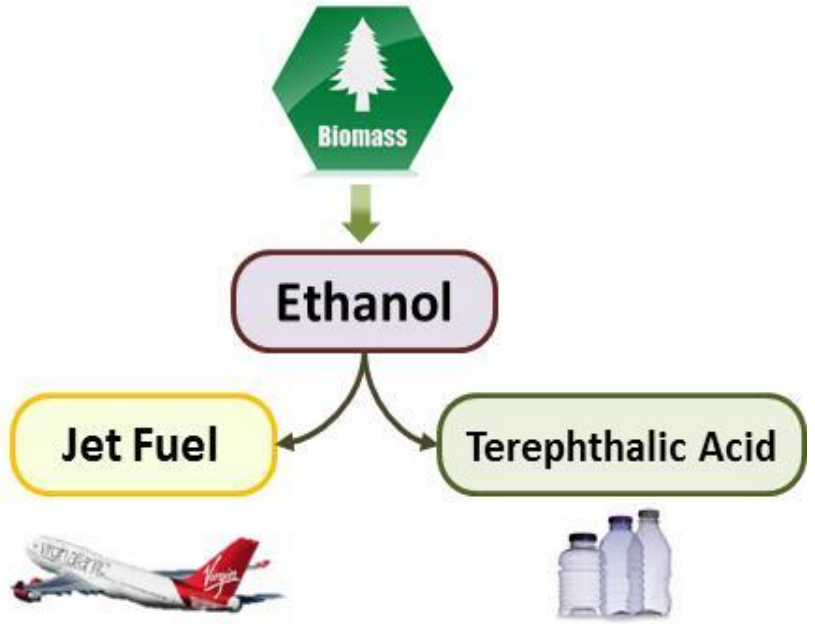
- Develop a marketable and economical catalytic process from bio-derived ethanol to renewable terephthalic acid (TA) to help supply growing markets and provide access to completely sustainable polyethylene terephthalate (PET).

Approach:

- From ethanol, TA is produced in three chemical steps: ethanol → acetaldehyde → p-methyl benzaldehyde → TA. The focus of this work will be on the most technically challenging step acetaldehyde → p-methyl benzaldehyde.
- This will be evaluated on bench-scale continuous systems

Impact on the Bioenergy Industry:

- This technology will lead to a new co-product from ethanol that is in high demand, enhancing the economics of jet fuel production.



ChemCatBio Capabilities Leveraged:

- Catalytic material synthesis
- Advanced catalyst characterization
- Evaluation of catalyst performance and mechanistic studies.

ChemCatBio
Chemical Catalysis for Bioenergy

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