

# Improved Value of the Gasoline and Fuel Oil Co-Product Fractions Generated by the PNNL/LanzaTech Alcohol-to-Jet Process



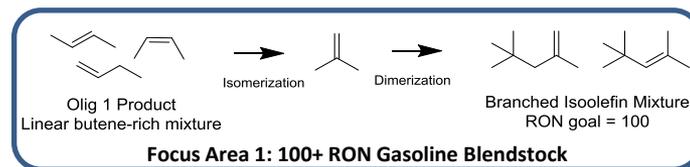
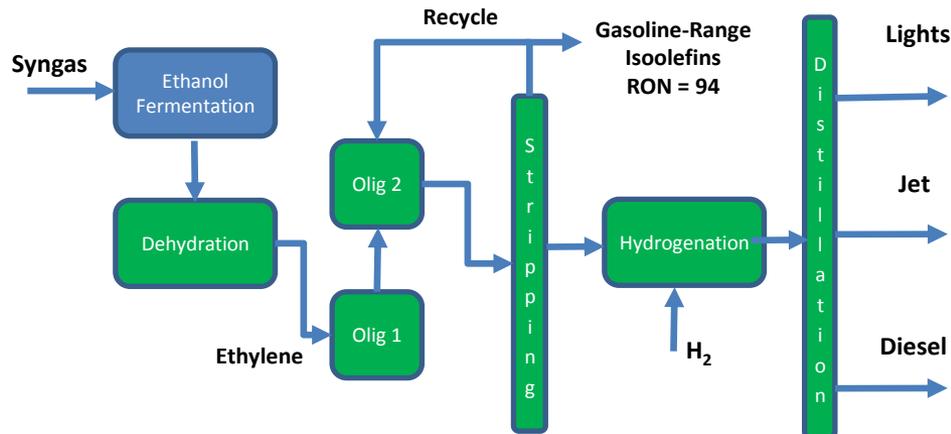
Proudly Operated by **Battelle** Since 1965

**Goal:** Increase RON of lights to 100 and produce synthetic lubricant base oil from heavies

## Approach:

- Skeletal isomerization of Olig 1 product, followed by oligomerization and RON verification
- Fuel oil characterization, hydroisomerization, and evaluation of renewable synthetic lube oil property-structure relationships

**Impact on the Bioenergy Industry:** Decrease effective cost of PNNL/LT process jet fuel by >\$1/gal via creation of high value gasoline and synthetic lubricant co-products.



1. Investigate as Group III base oil
2. Hydroisomerization to increase viscosity index

## Focus Area 2: Group III Base Oil

**ChemCatBio Capabilities Leveraged:** Catalyst preparation, flow reactor testing, hydrocarbon characterization, and techno-economic analysis.



ChemCatBio Directed Funding Assistance 2017



**Energy Materials Network**  
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