

## Process for Thermal Oligomerization

**A mild, high-yield process converts olefins to gasoline/diesel with little methane waste.**

Researchers at Purdue University have discovered a method to convert olefins to gasoline and diesel fuels at higher rates and yields than is currently possible. Some geographical regions

do not have a robust chemical industry but are rich in shale gas reserves, so this method provides an opportunity for local fuel production. The gas phase reaction results in little methane or

coking and can run for many days without significant loss of conversion. The method does not require harsh reaction conditions; effective conversion occurs at pressures between ambient and 45 bar and above 200 degrees Celsius.

**Technology Validation:** The gas phase reaction results in little methane or coking and can run for many days without significant loss of conversion.

### **Advantages:**

- Fast
- High yield
- Simple

### **Applications:**

- Gasoline and diesel fuel production

**TRL:** 2

### **Intellectual Property:**

Provisional-Gov. Funding, 2021-11-05, United States | PCT-Gov. Funding, 2022-11-04, WO | NATL-Patent, 2024-05-02, United States

### **Technology ID**

2022-MILL-69587

### **Category**

Chemicals & Advanced  
Materials/Specialty &  
Performance Chemicals  
Semiconductors/Packaging &  
Integration  
Chemicals & Advanced  
Materials/Materials Processing &  
Manufacturing Technologies

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