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Process for Conversion of C2-C5 Alkanes to Gasoline Blending Components

A simplified process converts C2–C5 alkanes into gasoline components with higher yield and lower cost.

Researchers at Purdue University have developed a novel process for the conversion of light alkanes into higher weight hydrocarbons used for various petrochemical applications, including gasoline blending. This single step process is optimized to convert ethane and propane into paraffins, olefins and aromatics with higher yield and at a lower operating temperature thus providing cost savings. This technology has applications within the chemical processing industry, particularly with parties who seek to generate transportation fuels from shale gases.

Advantages

- Less capital intensive than other processes

- Greater yield than other processes

- Single Step Process to convert shale gas to transportation fuels

- Lower temperature operation

Applications

- Transportation fuels

- Conversion of light alkanes into higher weight hydrocarbons

Technology Validation:

This technology has been validated via lab validation of the process which showed that in one step, light alkanes can be converted into benzene, toluene, and xylenes.

TRL: 4

Intellectual Property:

Technology ID
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Category
Chemicals & Advanced Materials/Specialty & Performance Chemicals
Chemicals & Advanced Materials/Materials Processing & Manufacturing Technologies

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Provisional-Gov. Funding, 2021-07-21, United States

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NATL-Patent, 2022-05-23, Europe

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