The Junior Research group “Physico-Chemical Fundamentals of Combustion (PCFC)” under the direction of Prof. Dr.-Ing. K. Alexander Heufer is engaged in research and teaching on fundamental combustion chemistry and advanced diagnostics of combustion processes.

The goal is to deeply understand the underlying reaction mechanism of the combustion processes of conventional and novel transportation fuels towards clean and efficient combustion.

Physico-Chemical Fundamentals of Combustion
RWTH Aachen University
Fuel Design Center
Schinkelstraße 8
52062 Aachen

Bachelor Thesis / Master Thesis
Start: from now

An experimental and kinetic modeling study of OME₁/n-heptane blends

“Power-to-X” Kopernikus project refers to technologies that convert electricity generated from renewable sources into physical energy stores, energy carriers, and energy-intensive chemical products. The focus of the hereby study is the production in form of made-to-measure fuels for transportation. Your mission is the kinetic investigation of the novel e-fuel class oxymethylene ethers (OME₅, CH₃O-(CH₂O)₅-CH₃). In particular, OME₅-blends have been identified as potential future fuel candidates for diesel engines.

Task:
- Experimental investigation of auto-ignition behavior of OME₁/n-heptane blends
- Implementation and validation of a detailed chemical kinetic model

Credentials:
- Interest of combustion chemistry
- Ability to work independently
- Fluent in both German and English

Would you like know more?
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