



Showcasing research by Associate Professor Jong Suk Yoo from University of Seoul, Professor Keunhong Jeong from Korea Military Academy, and Dr. Seo-Jung Han and Dr. Jeong-Myeong Ha from Korea Institute of Science and Technology, Seoul, Korea.

Production of high-carbon-number hydrocarbon bio-aviation fuels *via* catalytic hydrogenation of vanillin and non-catalytic condensation: a mechanistic study with DFT and experimental insights

Production of high-carbon-number hydrocarbon bio-aviation fuels *via* catalytic hydrogenation of vanillin and non-catalytic condensation: a mechanistic study with DFT and experimental insights jet fuels from forest-derived vanillin, a lignin decomposition product, can be sustainably produced *via* catalytic hydrotreating and non-catalytic condensation to form C14 hydrocarbons. This renewable pathway helps reduce greenhouse gas emissions, with optimal conditions confirmed through carefully designed control experiments and supported by density functional theory (DFT) calculations.

Cover generated using Google Gemini AI tool.

Image reproduced by permission of Jeonghun Kim from *Green Chem.*, 2025, **27**, 7147.

## As featured in:



See Jong Suk Yoo, Seo-Jung Han, Keunhong Jeong, Jeong-Myeong Ha *et al.*, *Green Chem.*, 2025, **27**, 7147.