

RSC Applied Interfaces

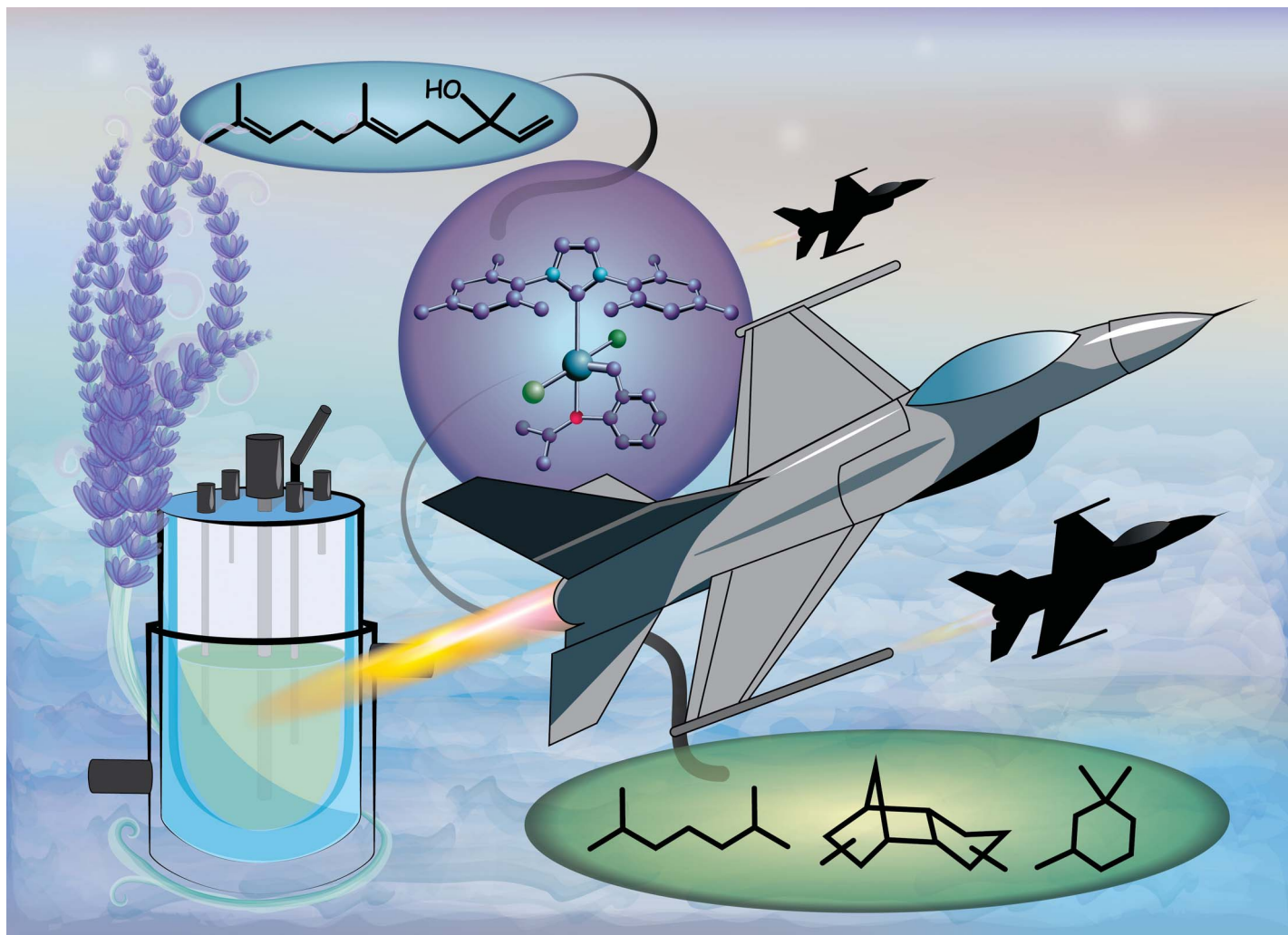
GOLD
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Interfacial and surface research
with an applied focus

Interdisciplinary and open access

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Fundamental questions
Elemental answers

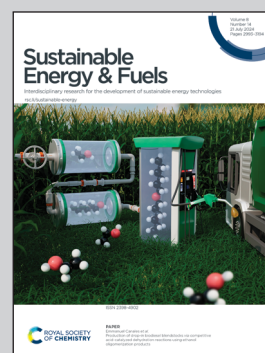


Showcasing research from Dr. Ben Harvey's laboratory, Research Department, Chemistry Division, Naval Air Warfare Center, Weapons Division, China Lake CA, USA.

"Metafining" of nerolidol with a Grubbs-Hoveyda catalyst to generate high-performance sustainable aviation fuels

trans-Nerolidol, a bio-based sesquiterpene, was efficiently converted into sustainable aviation fuel blendstocks by [Ru]-catalyzed ring-opening metathesis followed by dehydration and hydrogenation. The quantitative metathesis reaction was conducted neat in under 30 minutes at room temperature and atmospheric pressure with a catalyst loading of only 0.03 mol%. The products could be tuned by catalyst selection and reaction conditions to optimize fuel density and viscosity. The bio-based hydrocarbons have applications as blendstocks to enhance the performance of both conventional jet fuel and existing sustainable aviation fuels.

As featured in:



See Benjamin G. Harvey *et al.*, *Sustainable Energy Fuels*, 2024, 8, 3048.