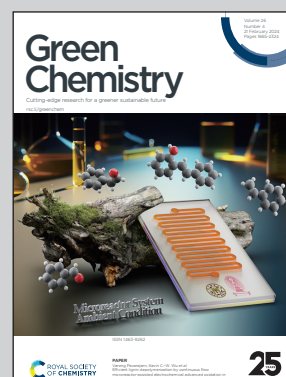


Showcasing research from Professor Kaige Wang's laboratory, State Key Laboratory of Clean Energy Utilization, Zhejiang University, China.

The synergistic effect of  $\text{Cu}^0$  and  $\text{Cu}^+$  for one-step synthesis of aviation biofuel from biomass-derived ketones

A Cu-based catalyst was developed for one-step solvent-free synthesis of aviation biofuel from biomass-derived ketones. 79.7 c% maximum carbon yield of liquid hydrocarbons with 89.5% selectivity of aviation biofuel was obtained. The preferred adsorption of carbonyl groups and efficient dissociation of hydrogen on  $\text{Cu}^+$  increased the local concentration of H and feedstock on the catalyst surface, accelerating the rate-determining step that predominated on  $\text{Cu}^0$ . The synergistic effect of  $\text{Cu}^0$  and  $\text{Cu}^+$  enhanced improved the formation of aviation biofuel.

As featured in:



See Xinbao Li, Kaige Wang *et al.*, *Green Chem.*, 2024, 26, 1910.