

Dehydrative Allylation between Aldehydes and Allylic Alcohols through Synergistic N-Heterocyclic Carbene/Palladium Catalysis



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Invited for the cover of this issue is the group of Hirohisa Ohmiya and co-workers at Kanazawa University. The image depicts cooperative action between a thiazolium N-heterocyclic carbene organocatalyst and a palladium catalyst. Read the full text of the article at [10.1002/chem.201805955](https://doi.org/10.1002/chem.201805955).

What is the most significant result of this study?

The cooperative action of a thiazolium N-heterocyclic carbene organocatalyst and a palladium catalyst enabled the first dehydrative direct allylation between aldehydes and allylic alcohols to produce β,γ -unsaturated ketones. This process is highly advantageous compared with the conventional allylation between acyl metal reagents and activated allylic electrophiles in terms of step and atom economy.

What was the inspiration for this cover design?

The cover image shows an "anemone fish" and "sea anemone" living cooperatively in their natural environment. This is inspired by a feature of the introduced protocol: "cooperative action of two catalysts in one flask for sustainable synthesis."

What other topics are you working on at the moment?

Besides our research on synergistic catalysis, we are also working on two other research topics. One is the development of reductive umpolung to catalytically form an α -alkoxyalkyl anion from an aldehyde for use in organic synthesis. The other is the design and synthesis of organoboron-based biomolecules.



COVER PROFILE

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Read more about the story behind the cover in the Cover Profile and about the research itself on page ■■ ff. (DOI: 10.1002/chem.201805955).