

Amide Synthesis via Molecular Shuffling of Carboxylic Acids

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This manuscript has been previously reviewed at another journal. This document only contains information relating to versions considered at Nature Communications.

This file contains all reviewer reports in order by version, followed by all author rebuttals in order by version.

Version 0:

Reviewer comments:

Reviewer #2

(Remarks to the Author)

The authors have carefully addressed the concerns raised in my previous review. As a result, the manuscript has been substantially improved and suitable for publication in Nature Communications. I only have two very minor points:

1. The olefin employed in this study is norbornene; however, the graphical representation in Figure 1B appears to depict a generic alkene. This visual impression could unintentionally suggest a broader olefin compatibility (for example, simple alkenes such as ethylene), which does not seem to reflect the actual scope. To avoid potential overgeneralization, it would be helpful to revise this figure so that the structural specificity of norbornene is more clearly conveyed.
2. For crystal structures 1c and 1e, highlighting the structures may not be necessary in the main text. Instead, it would be more informative to explicitly depict the absolute configuration in the structural drawings rather than simply using bold formatting. In particular, readers may be especially interested in the stereochemical outcome of the newly formed C-C bond following norbornene insertion (e.g., cis/trans relationship), and presenting this information clearly would enhance the impact of the structural analysis.

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The point-to-point response to Reviewers is as follows:

Response to Reviewer #2 (Comments for the Author):

Reviewer 2:

Comment 1: "The olefin employed in this study is norbornene; however, the graphical representation in Figure 1B appears to depict a generic alkene. This visual impression could unintentionally suggest a broader olefin compatibility (for example, simple alkenes such as ethylene), which does not seem to reflect the actual scope. To avoid potential overgeneralization, it would be helpful to revise this figure so that the structural specificity of norbornene is more clearly conveyed."

Response: Thank you so much! We have revised Figure 1B to show the bicyclic structure of norbornene.

Comment 2: "For crystal structures 1c and 1e, highlighting the structures may not be necessary in the main text. Instead, it would be more informative to explicitly depict the absolute configuration in the structural drawings rather than simply using bold formatting. In particular, readers may be especially interested in the stereochemical outcome of the newly formed C-C bond following norbornene insertion (e.g., cis/trans relationship), and presenting this information clearly would enhance the impact of the structural analysis."

Response: Thank you so much! We have revised the two figures and added the stereochemical information of compounds **1c** and **1e**.