



2021「中技社科技獎學金」

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Gold Catalyzed Divergent Utilization of Alkynes and Alkenes

Sayaji Arjun More (安沙亞), Rai-Shung Liu*

NTHU

Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan, R. O. C.

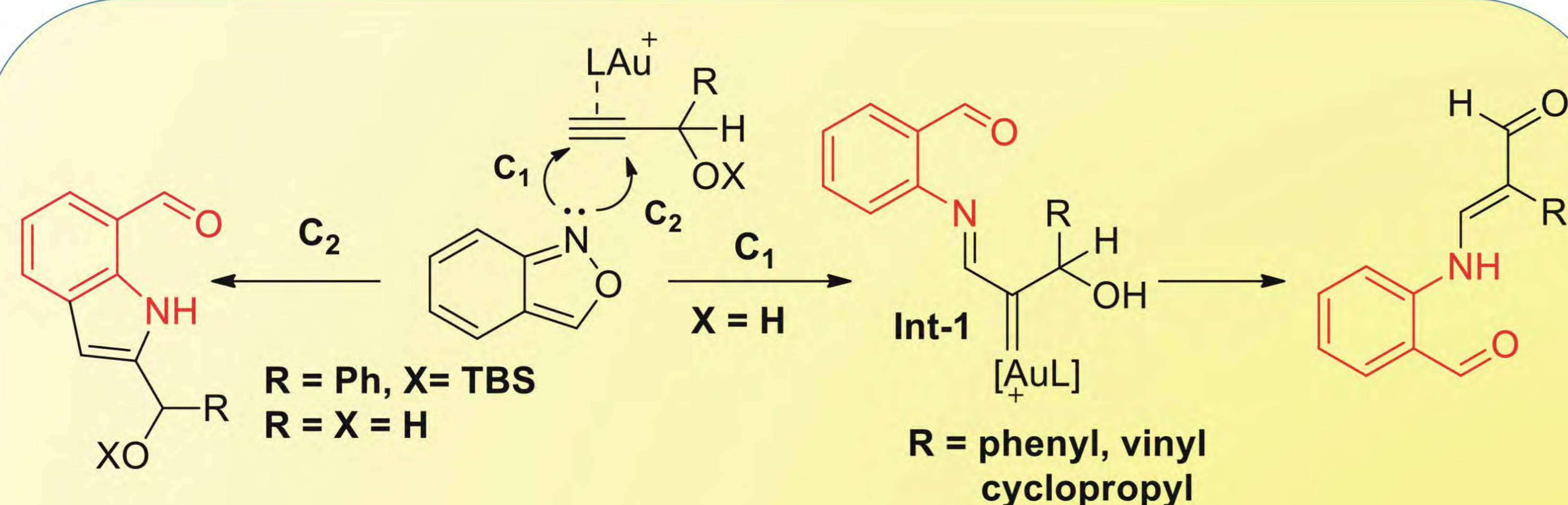


Abstract

We have developed gold catalyzed new synthetic strategies for various organic compounds such as E-configured α -amino-2-en-1-one and -1-als with complete chemoselectivity, substituted inoles and oxazolidin-4-ylidene derivatives and also we develop gold-catalyzed aerobic oxidations of cycloheptatrienes to afford benzaldehyde derivatives using CuCl and nitrosoarenes as co-catalysts Nitroso Activated Cycloheptatriene/Benzylidene Rearrangement. These catalytic reactions involve formation of new C-C and C-N bonds. These catalytic olefinations or annulations enables easy, atom economic and convenient synthesis of heterocycles using mild reaction conditions and easy preparation of starting materials.

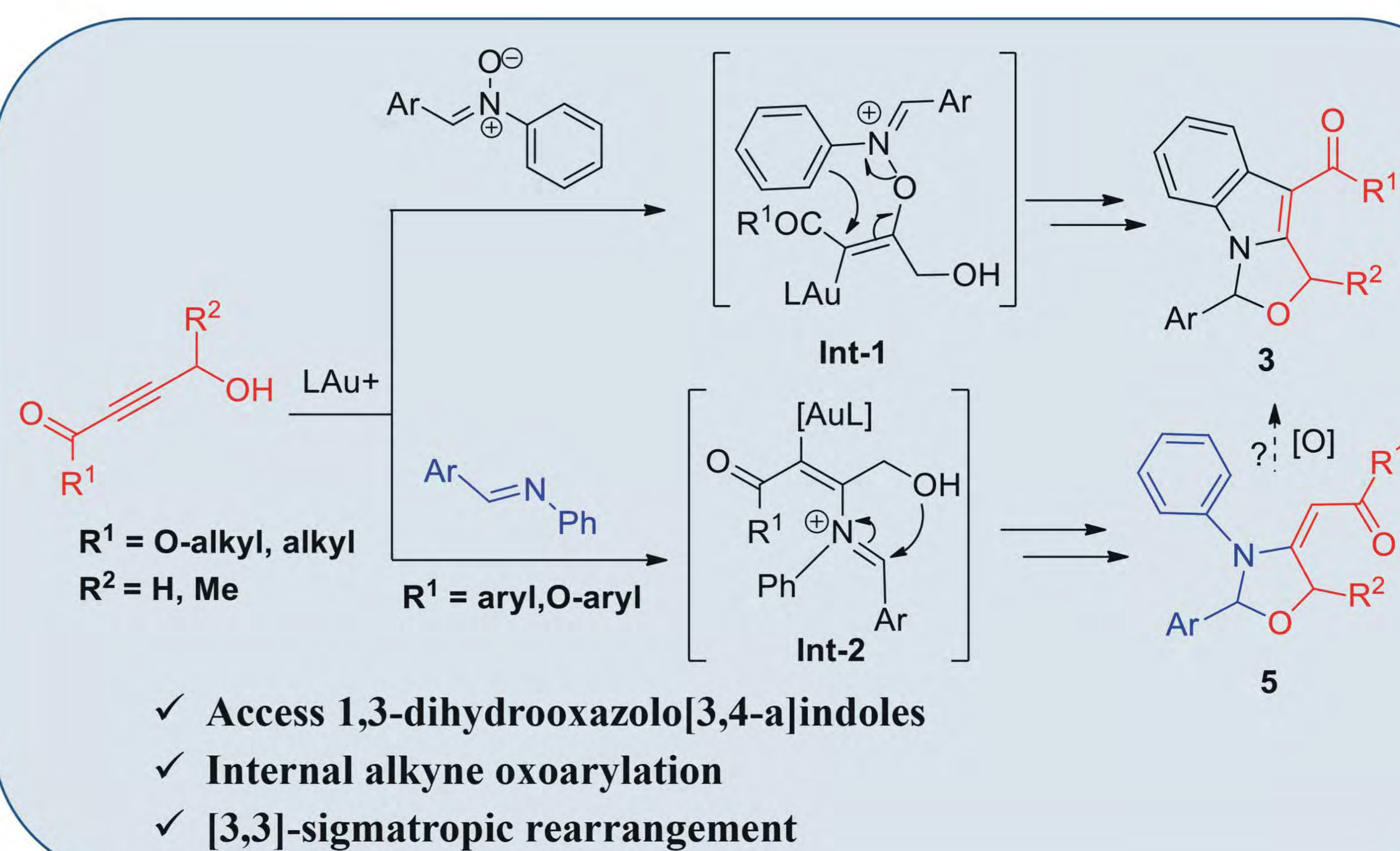
Research Work

1. Gold-Catalyzed Iminations of Terminal Propargyl Alcohols with Anthranils with Atypical Chemoselectivity for C(1)-Additions and 1,2-Carbon Migration

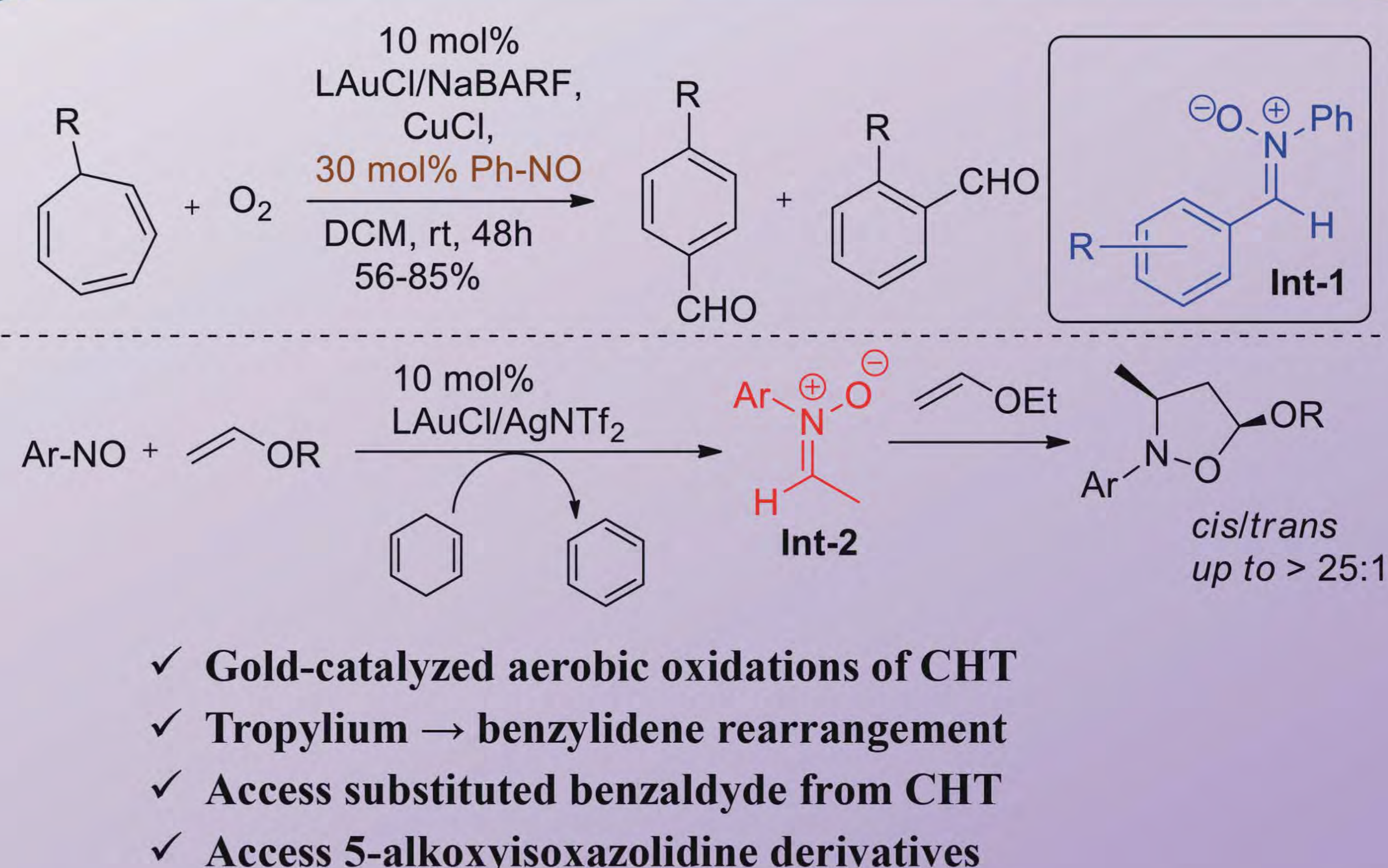


- ✓ Access (C1) iminations of propargyl alcohol
- ✓ Regioselective reaction
- ✓ Novel 1,2-carbon migration
- ✓ Broad substrate scope

2. Gold-Catalyzed Bicyclic and [3+2]-Annulations of Internal Propargyl Alcohols with Nitrones and Imines To Yield to Two Distinct Heterocycles



3. Gold Catalysts Can Generate Nitron Intermediates from a Nitrosoarene/Alkene Mixture, Enabling Two Distinct Catalytic Reactions: A Nitroso-Activated Cycloheptatriene/Benzylidene Rearrangement



References

- 1) M. Skaria, **S. A. More**, T-C. Kuo, M-J. Cheng, R.-S. Liu, *Chem. Eur. J.* 2020, 26, 3600-3608.
- 2) **S. A. More**, R.-S. Liu, *Adv. Synth. Catal.* 2021, 363, 525-531.
- 3) **S. A. More**, R. D. Kardile, T.-C. Kuo, M.-J. Cheng, R.-S. Liu, *Org. Lett.* 2021, 23, 5506-5511.

Acknowledgment

Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan and Ministry of Science and Technology, Taiwan, ROC.



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