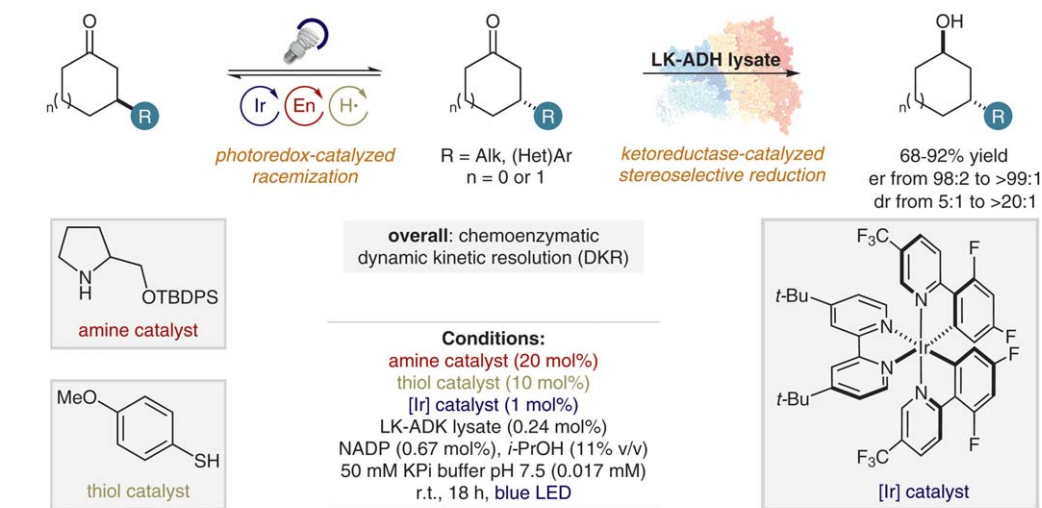


J. S. DEHOVITZ, Y. Y. LOH, J. A. KAUTZKY, K. NAGAO, A. J. MEICHAN, M. YAMAUCHI, D. W. C. MACMILLAN*, T. K. HYSTER* (PRINCETON UNIVERSITY, USA)

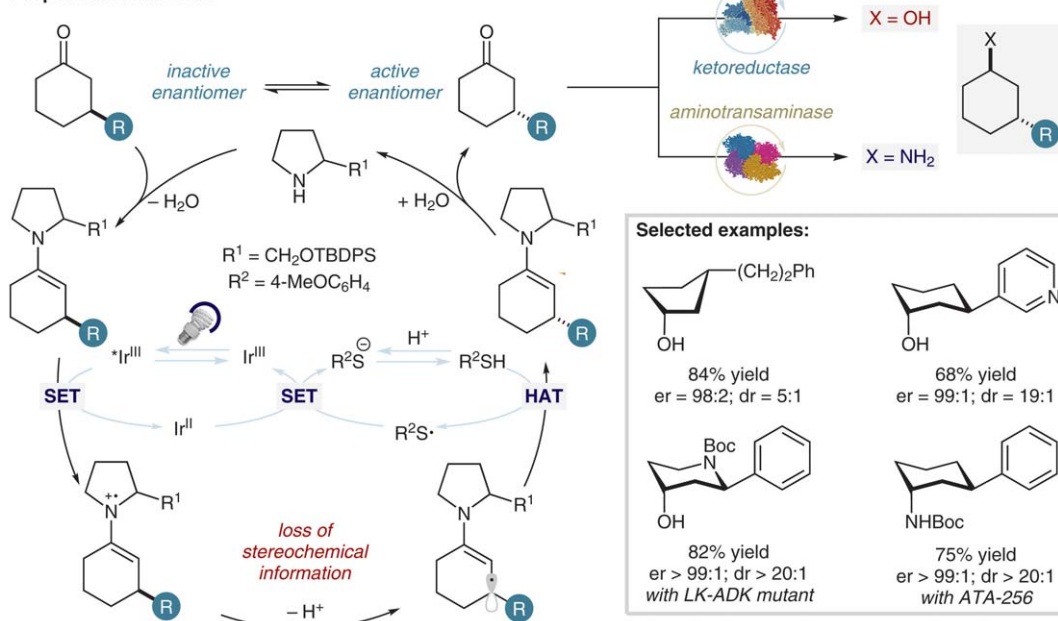
Static to Inducibly Dynamic Stereocontrol: The Convergent Use of Racemic β -Substituted Ketones

Science 2020, 369, 1113–1118, DOI: 10.1126/science.abc9909.

Chemoenzymatic Dynamic Kinetic Resolution at Normally Static Stereogenic Centers



Proposed mechanism:



Significance: The Hyster and MacMillan groups used photoredox catalysis to induce dynamic stereocontrol at normally static stereogenic centers and, in conjunction with a ketoreductase, yield γ -substituted alcohols in nearly enantiopure form.

Comment: Given the range of chemical space that is open to photo-/organocatalytic processes, paired with the unparalleled selectivity of enzymes, this novel platform will undoubtedly open new pathways for stereoconvergent syntheses.

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