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Metal-Free, Cooperative Asymmetric Organophotoredox Catalysis with Visible Light
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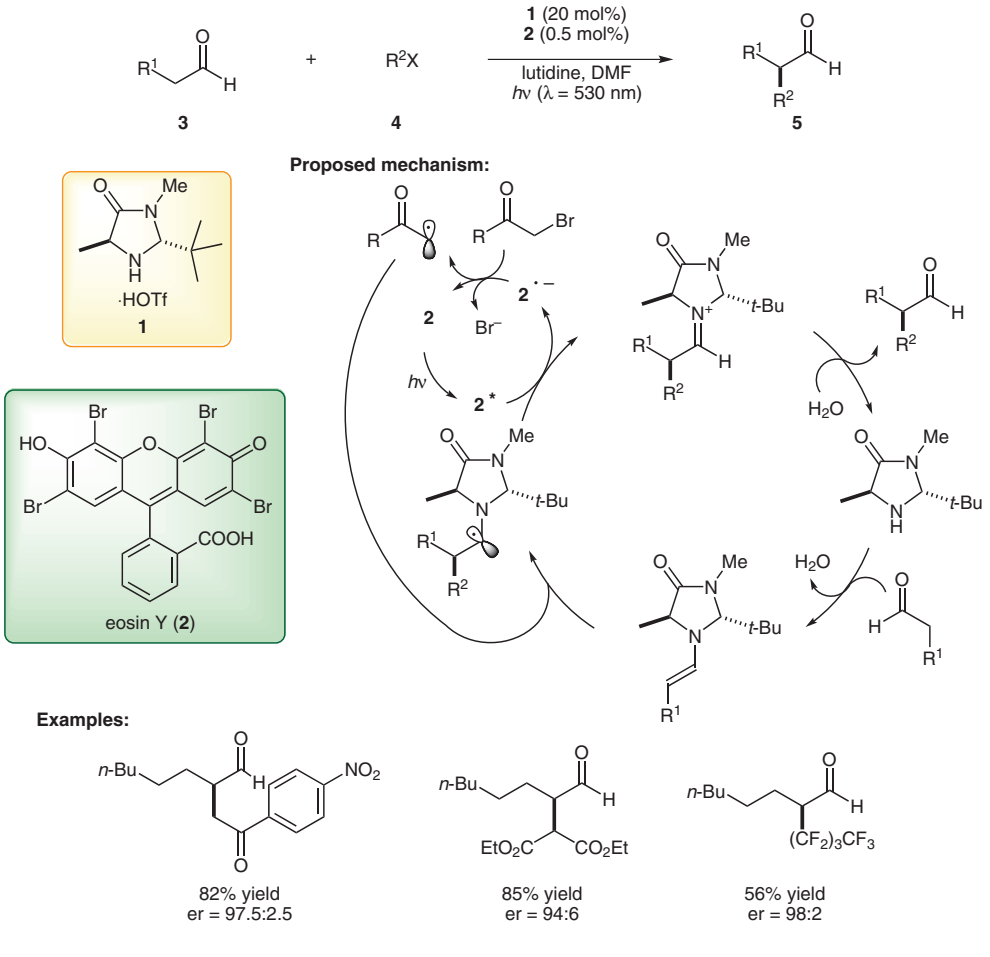
Organophotoredox Catalysis



Significance: Classic xanthene dyes were demonstrated to be efficient photoredox catalysts for the organocatalytic asymmetric intermolecular α-alkylation of aldehydes. Under visible light irradiation eosin Y (**2**) gave comparable results to precious metal catalysts.

Comment: In 2008, Nicewicz and MacMillan reported an asymmetric intermolecular α-alkylation of aldehydes via a combination of photoredox catalysis and organocatalysis (*Science* **2008**, *322*, 77). Now, Zeitler and co-workers demonstrated that precious metal complexes can be replaced by xanthene dyes as photoredox catalysts rendering the process purely organic. The extension of highly versatile photoredox catalysis to classic organic dyes is likely to find utility in a variety of other transformations.

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xanthene dyes