Bioinspired Light-Escalated Chemistry (BioLEC)

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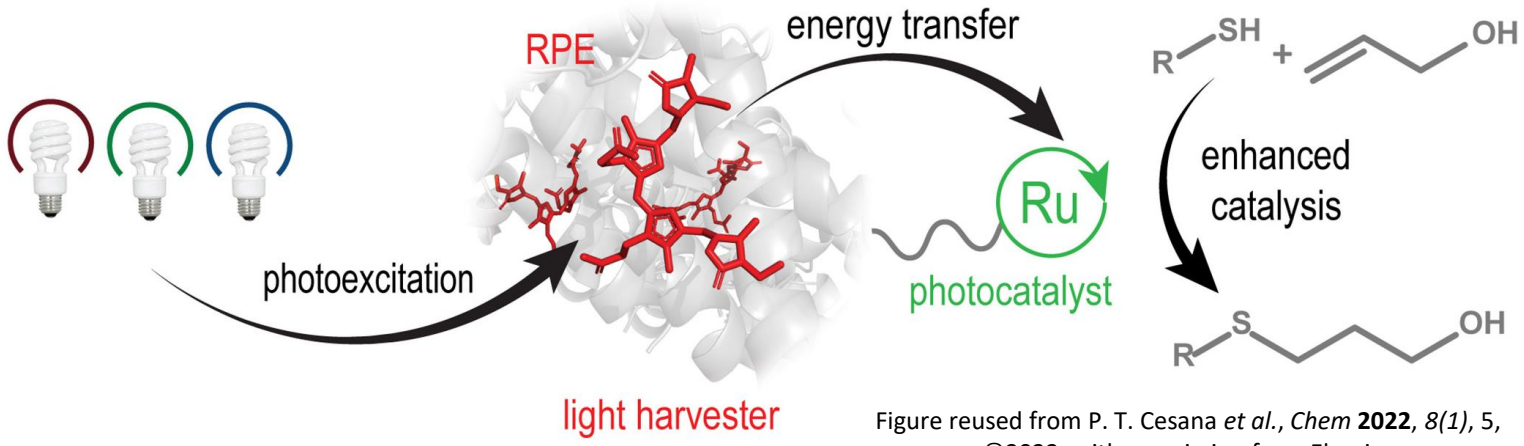
MISSION: To combine light harvesting and solar photochemistry to enable more powerful editing, building, and transforming of abundant materials to produce energy-rich feedstock chemicals.



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RESEARCH PLAN: We aim to reduce the energy costs of chemical manufacturing by finding ways to replace fossil fuels as both energy source and starting materials. We tackle this by developing photochemistry that enables new routes for synthesizing chemical feedstocks using only light for energy; looking to nature: discovering, synthesizing and studying photoenzymes that enable enhanced catalysis; using bioinspired tactics to improve photocatalysis; and designing new and improved photocatalysts by elucidating photocatalysis mechanisms using a wide variety of spectroscopies. https://biolec.princeton.edu/