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SYNFACTS Highlights in Current Synthetic Organic Chemistry

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Organo- and Biocatalysis

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cyclopropanes

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cascade reaction

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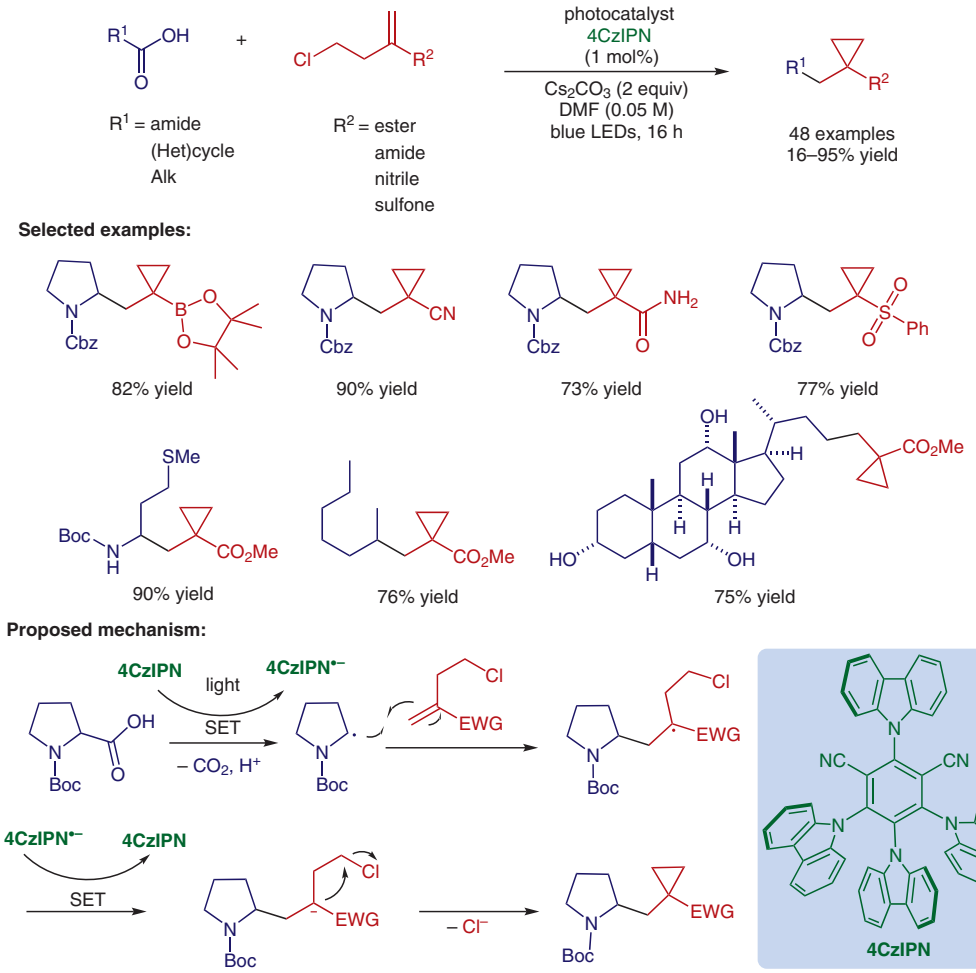
Synthesis of Functionalized Cyclopropanes from Carboxylic Acids via a Radical Addition–Polar Cyclization Cascade
Angew. Chem. Int. Ed. **2018**, *57*, 15430–15434.

Photoredox-Catalyzed Decarboxylative Radical Cyclization Cascade



Significance: Aggarwal and co-workers report a 4CzIPN photocatalyst catalyzed decarboxylative radical cyclopropanation reaction of aliphatic carboxylic acids with electron-deficient alkenes. A variety of structurally diverse cyclopropanes were obtained in yields of up to 95%.

Comment: Although several decarboxylative radical coupling strategies have been reported, this is the first metal-free decarboxylative radical cyclopropanation. Given the good yields and excellent substrate tolerance, this method could potentially find application as a cyclopropane-forming alternative to established methods in total synthesis.

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