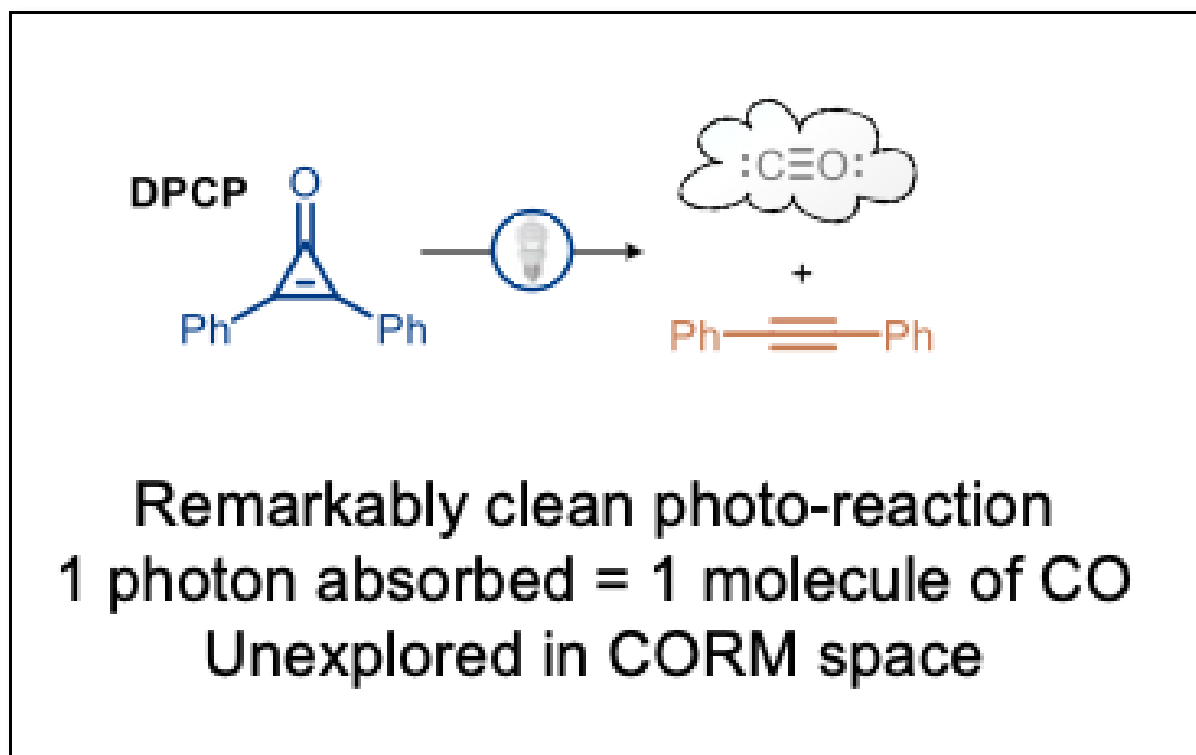


Polymeric and micellar carbon monoxides releasing molecules

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Carbon Monoxide (CO), although well-known for its toxicity, concurrently exhibits therapeutic potential against cancer, autoimmune disorders, and sepsis. Nevertheless, the precise mechanism underlying CO's therapeutic action remains elusive due to the lack of non-toxic CO delivery methods with controlled and triggerable CO release. A novel platform of CO-releasing polymers (CORPs) has been synthesized via Ring Opening Metathesis Polymerization (ROMP), leveraging the CO-releasing moiety diphenyl cyclopropenone (DPCP). DPCP and DPCP-derived polymers release CO gas via photodecarbonylation upon exposure to light; the wavelength for which can be modulated using a photocatalyst. The DPCP analogue has been polymerized with hydrophilic moieties to improve water solubility and explore diverse nanoparticle architectures. This presentation will discuss the application of these new polymers and nanoparticles in vitro.



Diphenyl cyclopropenone (DPCP) releases CO gas via photodecarbonylation upon exposure to light.