Revealing radical reactivity of BODIPY-based photocages

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Photocages¹ are highly desirable compounds due to their potential applications in drug delivery systems. BODIPY-based photocages are promising candidates as the reactivity of the BODIPY scaffold enables a wide range of its modification.^{2,3}

It has been previously shown that the photorelease of carboxylate from related BODIPY systems is a photoinduced S_N1 reaction. We have utilized this knowledge for the release of signaling lipids from π -extended BODIPYs.⁴ Detailed mechanistic studies performed on these derivatives revealed possible parallel homolytic cargo cleavage.



Therefore, in the current study, we develop BODIPY-based systems, where a BODIPY-Cargo bond cleavage is a homolytic process, which enables a photoinduced release of organic radical species. Moreover, we will also present applications of this reactivity mode in polymerization.

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