Dearomative Transformation via Polysulfide Anions Photocatalysis

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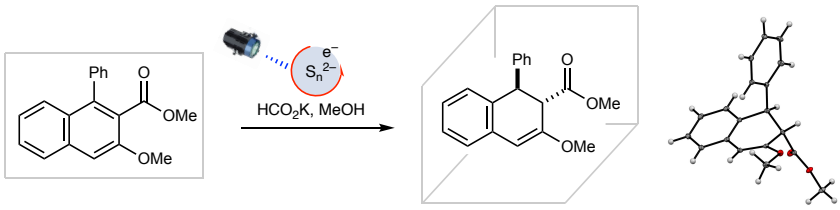
Sulfur forms catenated homoatomic polysulfide dianions S_n^{2-} (commonly, n = 2-8) and a persistent radical anion $S_3^{\bullet-}$ (which has been recognized as a chromophore in ultramarine blues).[1] The redox potentials of polysulfide anions have been elucidated mainly for the development of alkali metals-sulfur batteries. We recently revealed that these polysulfide anions function to mediate single-electron transfer and hydrogen atom transfer under irradiation with visible light.[2-5] This lecture will present recent efforts in our group for dearomative transformation under polysulfide anion photocatalysis.



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