

o-Nitrobenzyl Oxime Ethers Enable Photoinduced Cyclization Reaction to Provide Phenanthridines under Aqueous Conditions

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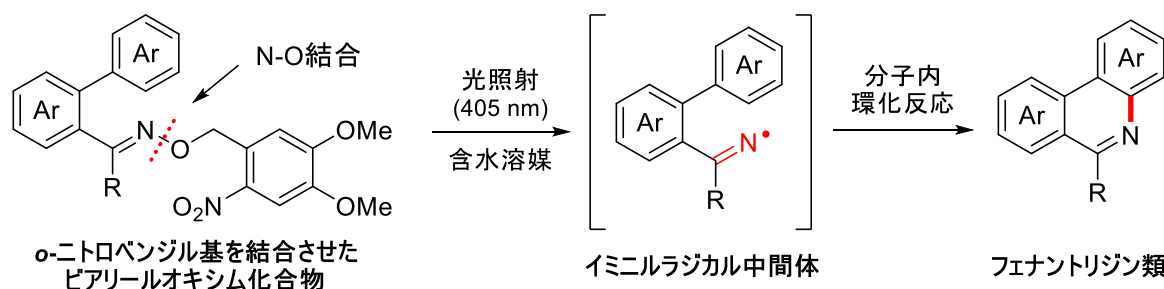


Figure 1. The photoinducible intramolecular cyclization reaction enabled by *o*-nitrobenzyl oxime ether.

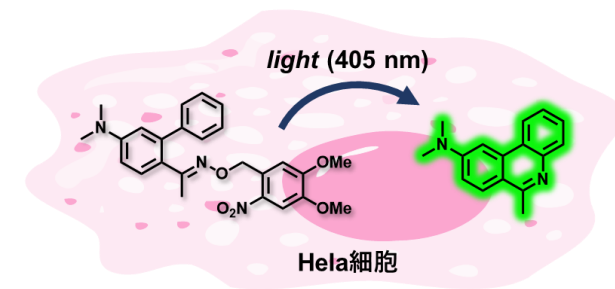


Figure 2. Schematic of the reaction progress in HeLa cell

o-Nitrobenzyl groups were attached to biaryl oxime ethers, and upon irradiation with light, we discovered that *o*-nitrobenzyl oxime ethers enable photoinduced cyclization of biaryl compounds to provide phenanthridines under aqueous as well as biological conditions. The reaction proceeds via an unprecedented photoinduced formation of iminyl radical from *o*-nitrobenzyl oxime ether. This photoinduced cyclization reaction could be used as a photochemical tool to control biological processes by inducing the production of bioactive molecules.

We discovered that *o*-nitrobenzyl oxime ethers enable photoinduced cyclization of biaryl compounds to provide phenanthridines under aqueous as well as biological conditions. The reaction proceeds via an unprecedented photoinduced formation of iminyl radical from *o*-nitrobenzyl oxime ether. This photoinduced cyclization reaction could be used as a photochemical tool to control biological processes by inducing the production of bioactive molecules.