



Showcasing research from Professor Wei Shu's laboratory,
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Convergent and divergent synthesis of dihydroisoquinoline-1,4-
diones enabled by a photocatalytic skeleton-editing [4 + 2] strategy

Shu and Li reported a photocatalytic [4 + 2] skeleton-editing strategy enabled direct synthesis of dihydroisoquinoline-1,4-diones from vinyl azides and carboxylic NHPI esters. The key to success is the use of NHPIs as bifunctional reagents and in the skeleton-edit enabled [4 + 2] cyclization cascade. Notably, vinyl azides serve as α -primary amino alkyl radicals followed by a radical initiated ring-enlargement event. Impressively, the reaction provides convergent access to identical dihydroisoquinolinediones from different NHPIs and divergent access to different dihydroisoquinolinediones from an identical NHPI.

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See Yu-Long Li, Qiong Yu,
Wei Shu *et al.*, *Chem. Sci.*,
2025, **16**, 11833.