Hydrazine-Catalyzed Direct Inverse Electron Demand Diels-Alder Reactions of 1,3,5-triazines with Ketones

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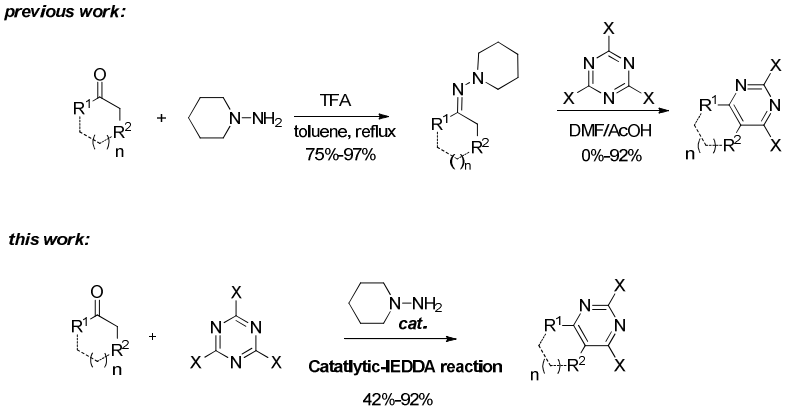
Recently, we disclosed the successful development of hydrazones as productive dienophiles in the inverse electron demand Diels-Alder (IEDDA) reactions of 1,3,5-triazines.[1] To further expand the scope of IEDDA reactions of 1,3,5-triazines, we envisioned that ketones could participate in IEDDA reaction under hydrazine-catalysis conditions (***this work***). This catalytic IEDDA reaction with a broad substrate scope affords a succinct, economical and green approach to the synthesis of pyridimine fused heterocycles from readily available ketones, further expanding the scope for 1,3,5-triazine IEDDA reactions. Meanwhile, the applications of hydrazine-type organocatalyst have been expanded by these studies. The details of these investigations will be presented.



Reference

(1) Yang, K.; Yang, Z.; Dang, Q.; Bai, X. *Eur. J. Org. Chem.* **2015**, DOI: 10.1002/ejoc.201500499