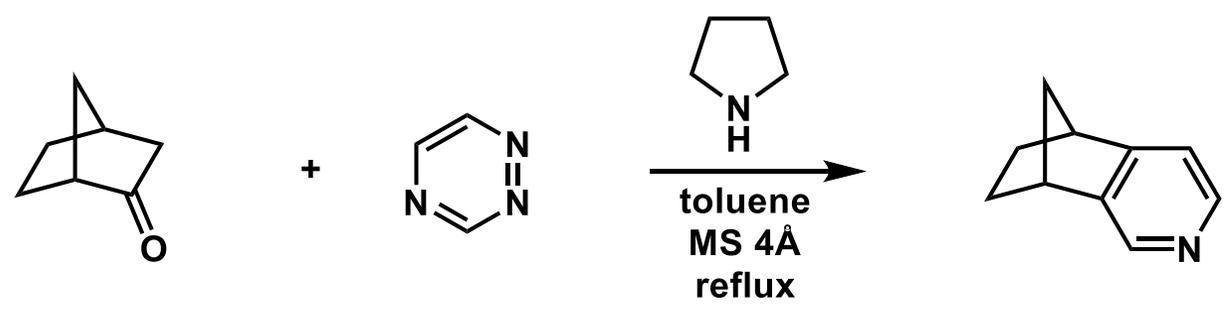
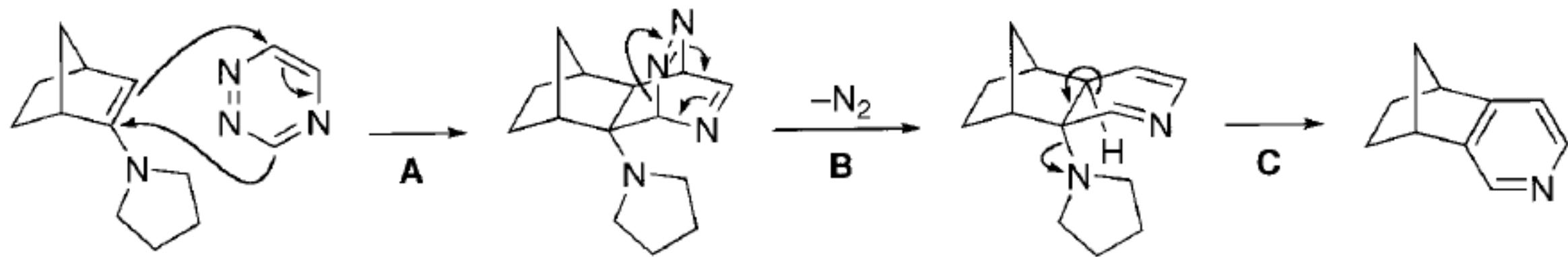
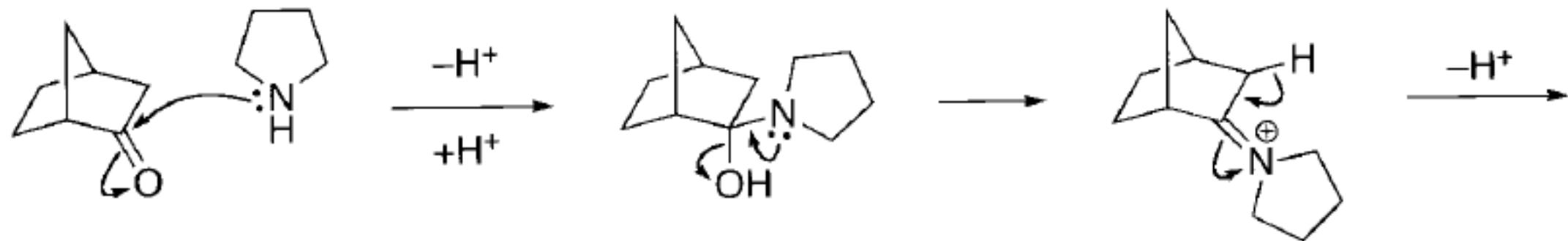


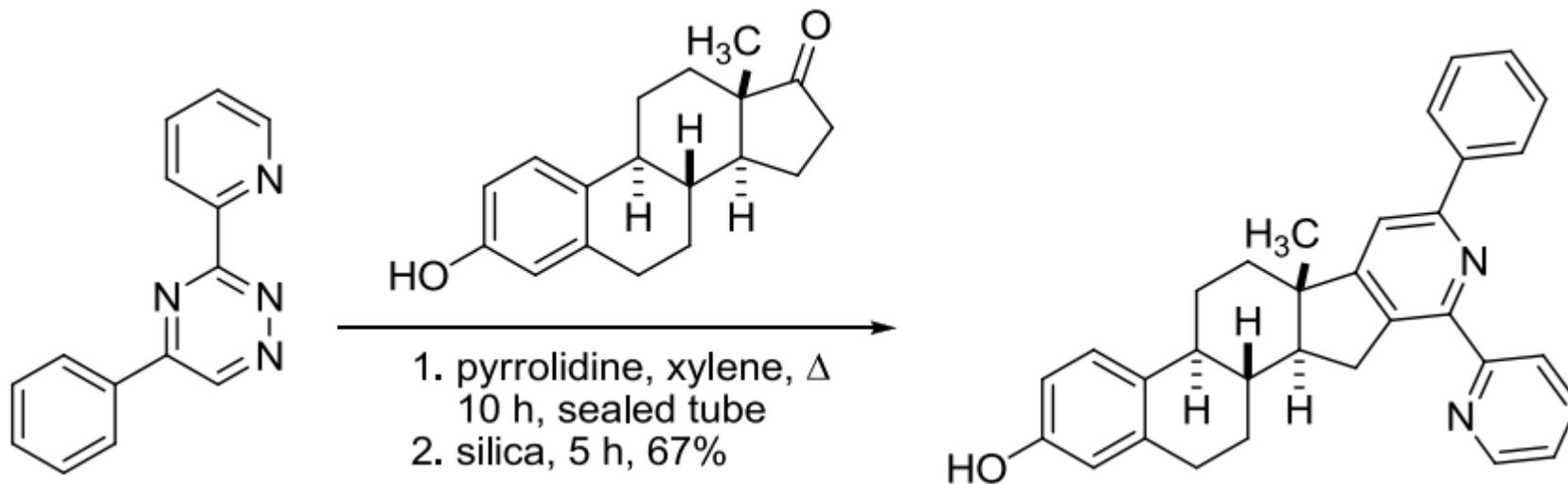
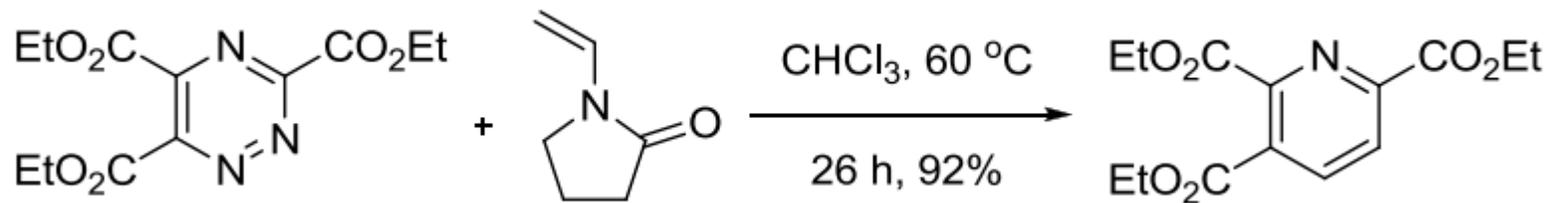
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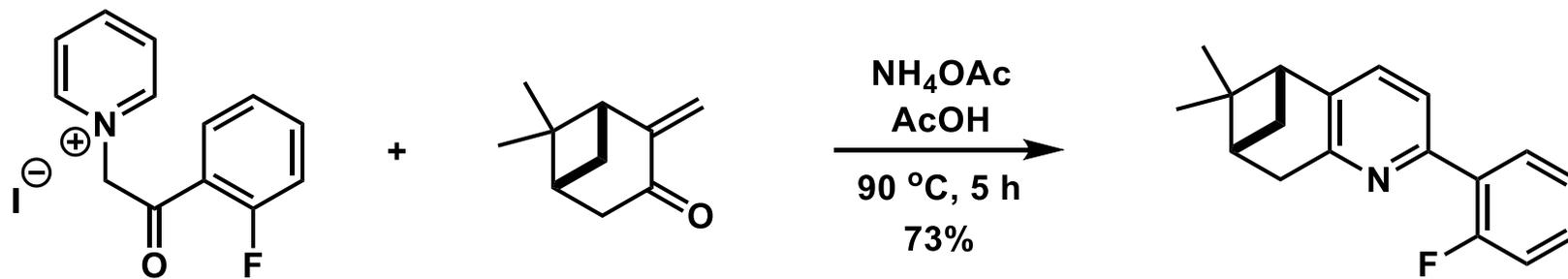


Boger吡啶合成反应

1,2,4-三嗪和亲二烯体（如烯胺）通过杂原子D-A加成脱去N₂得到吡啶的反应。



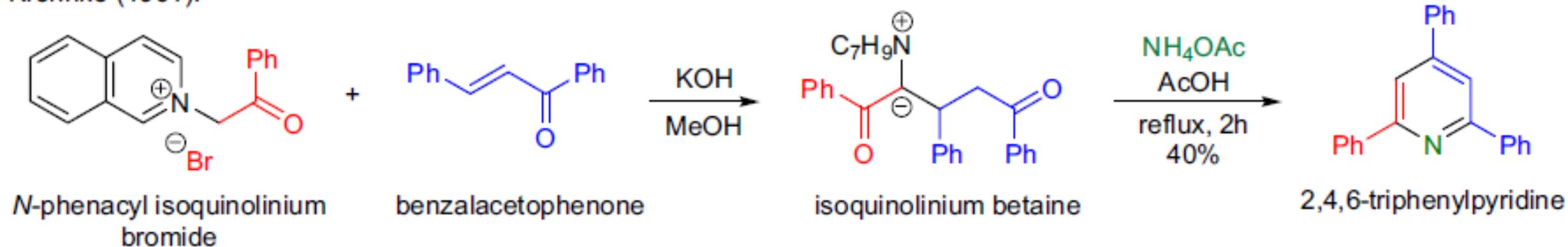
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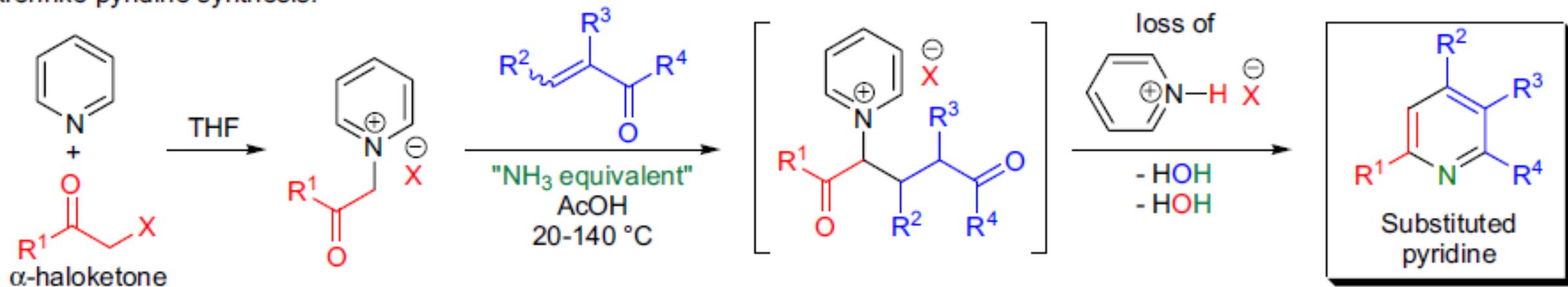
Kröhnke吡啶合成 (P254)

由 α -吡啶基甲基酮盐和 α,β -不饱和酮反应制备吡啶的方法。

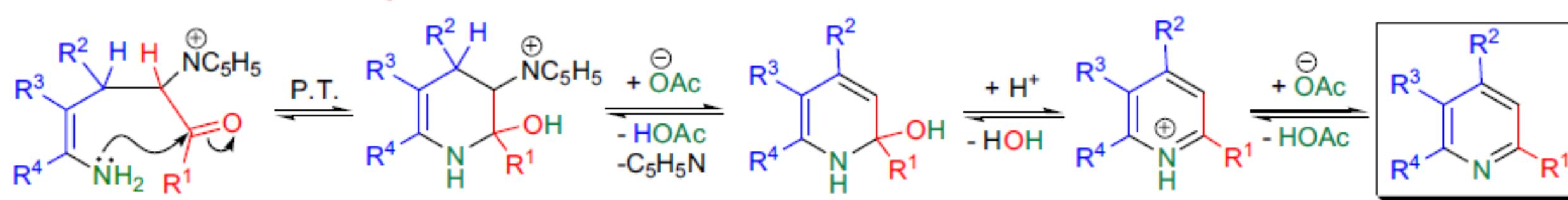
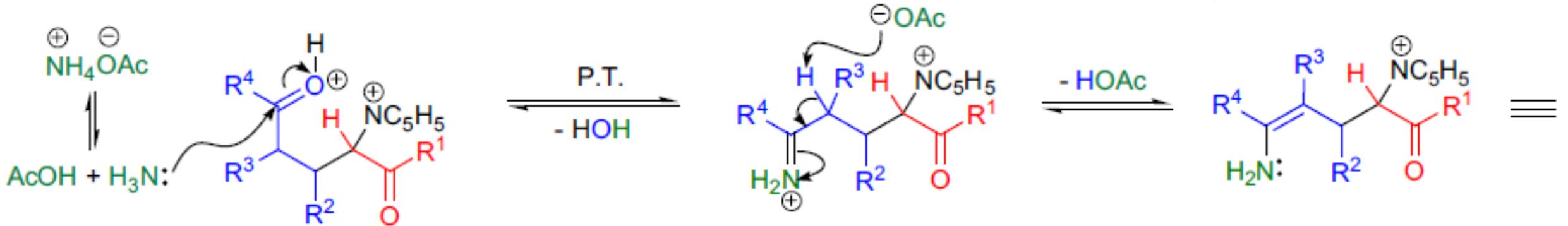
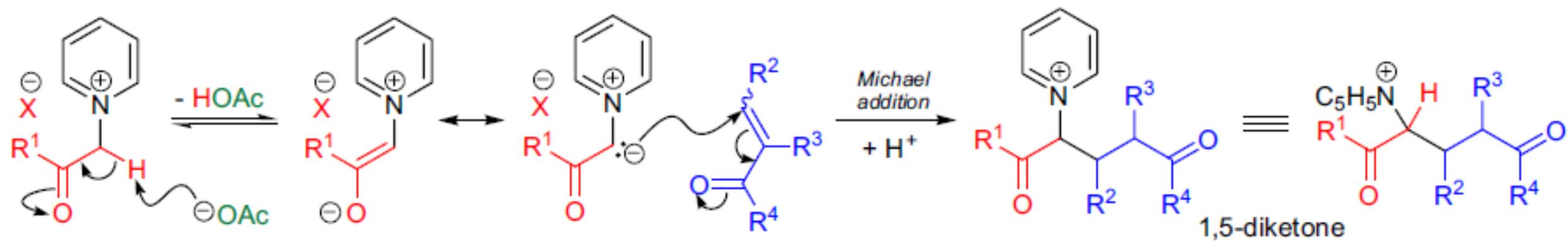
Kröhnke (1961):

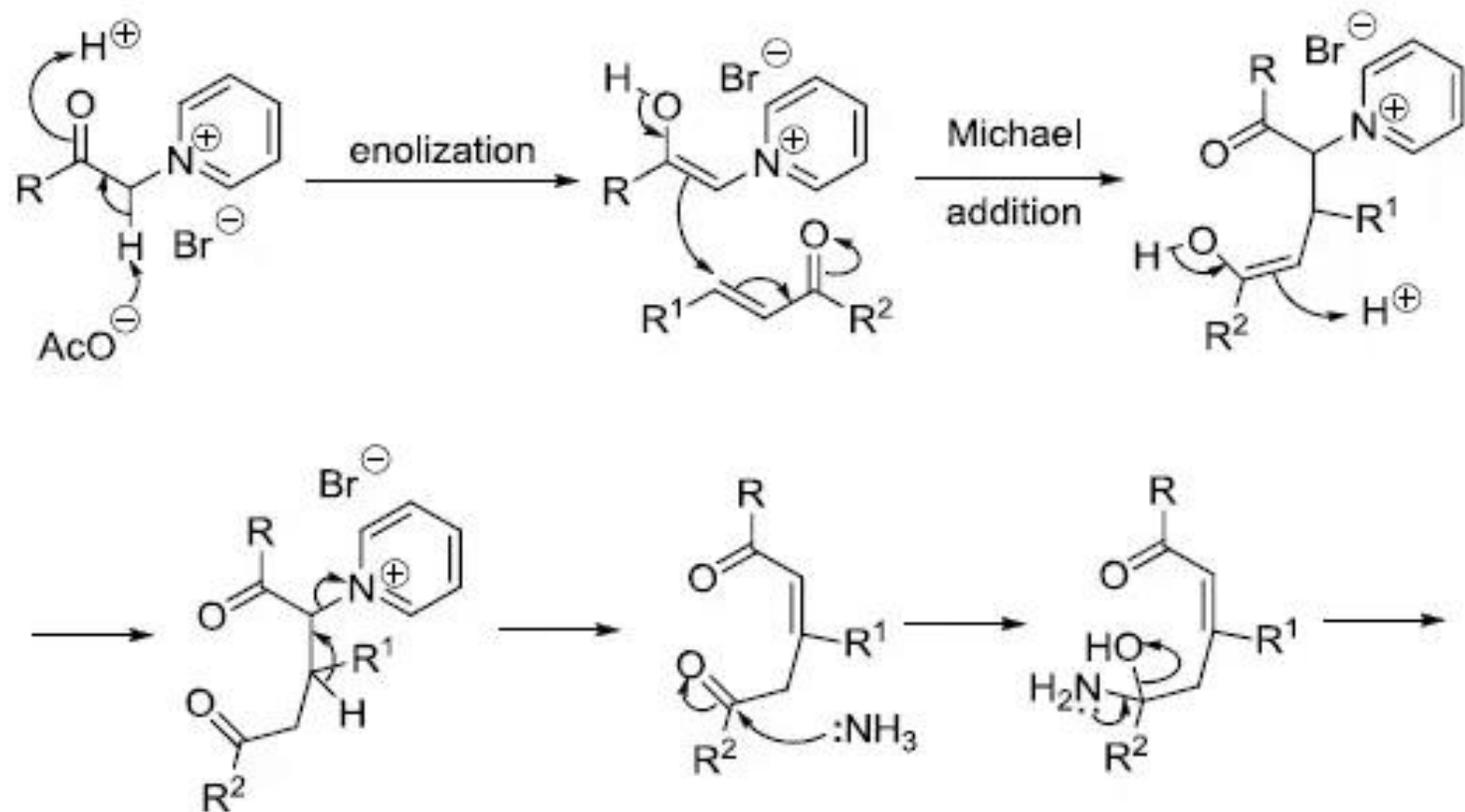


Kröhnke pyridine synthesis:

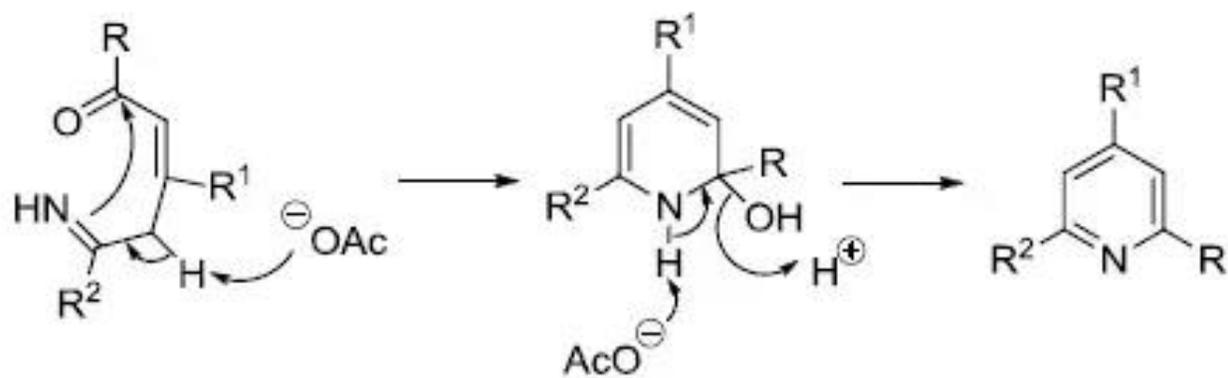


R^1 = alkyl, substituted aryl, heteroaryl; X = Cl, Br, I; R^2 = H, alky, aryl, heteroaryl; R^3 = H, (alkyl, aryl, heteroaryl); R^4 = alkyl, aryl, heteroaryl, CO_2^- , CO_2 -alkyl; NH_3 equivalent: NH_4OAc , HCONH_2 , CH_3CONH_2

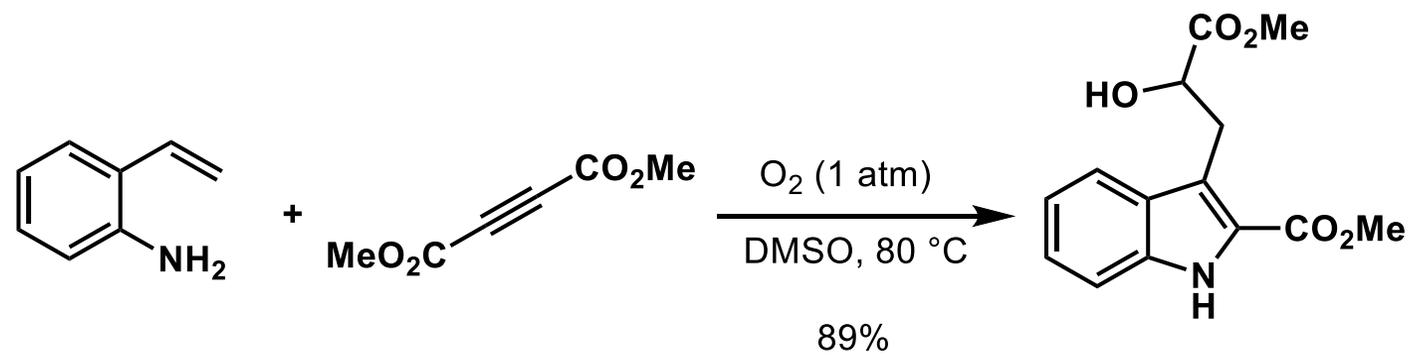




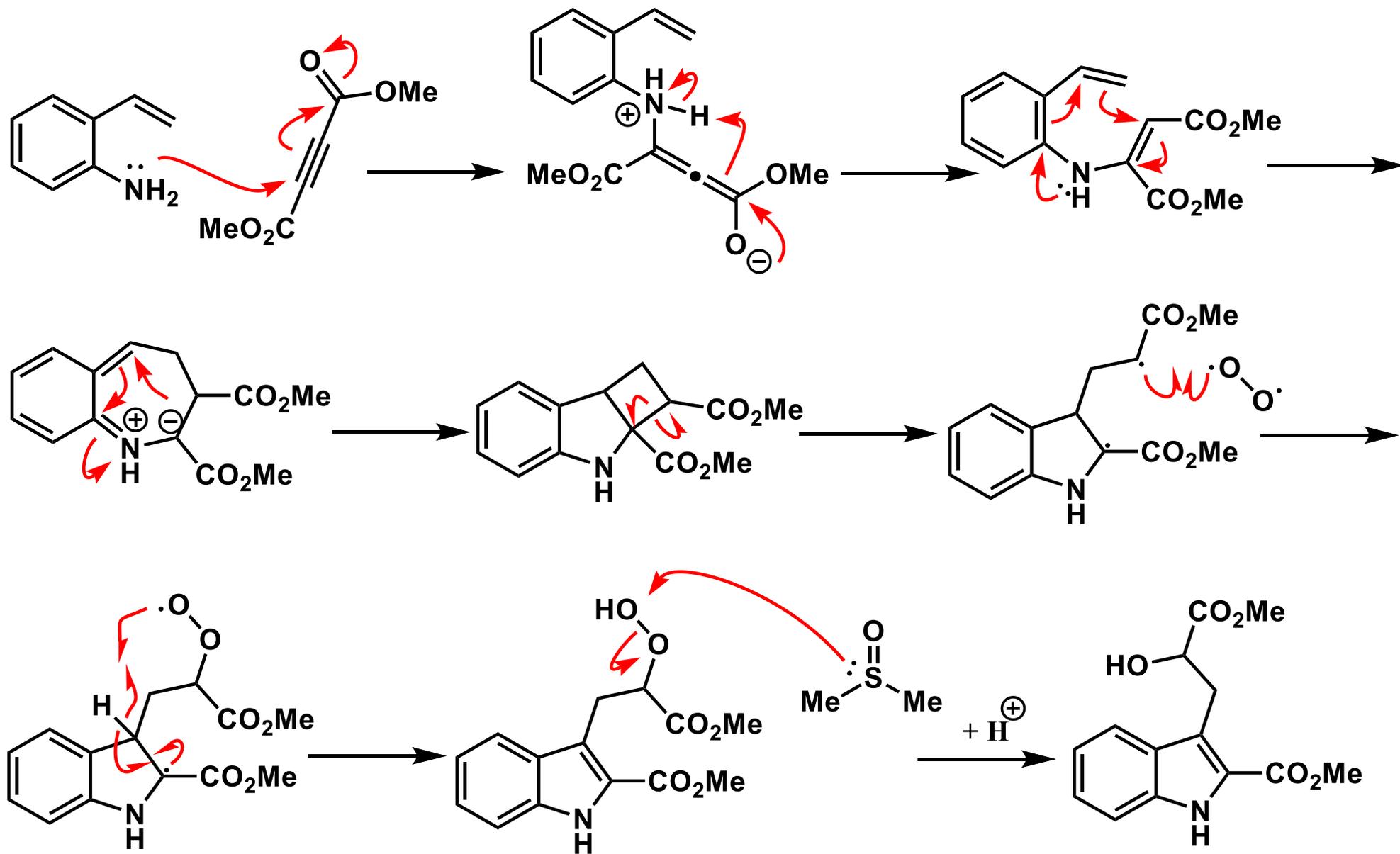
The ketone is more reactive than the enone

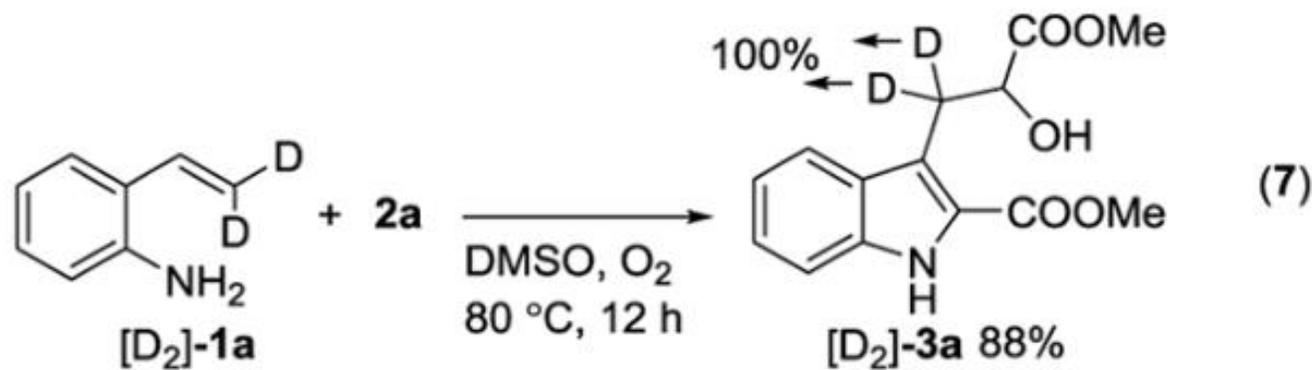
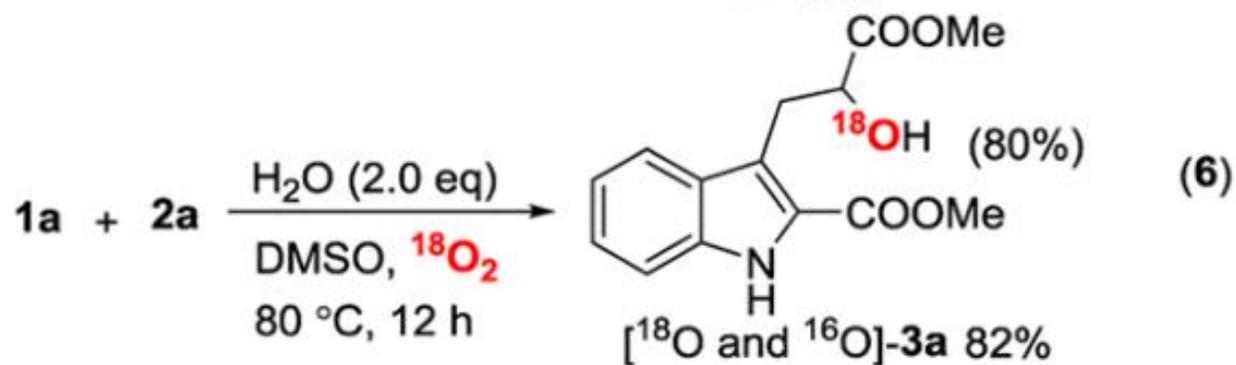
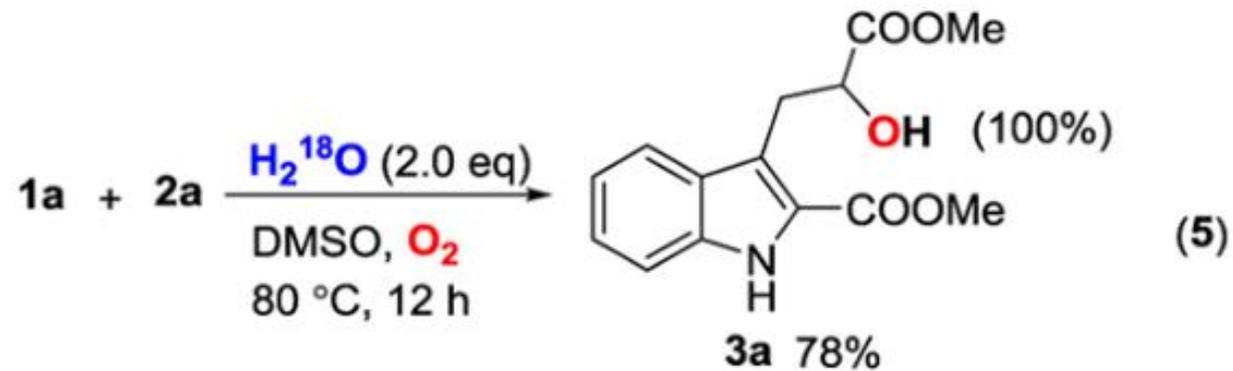


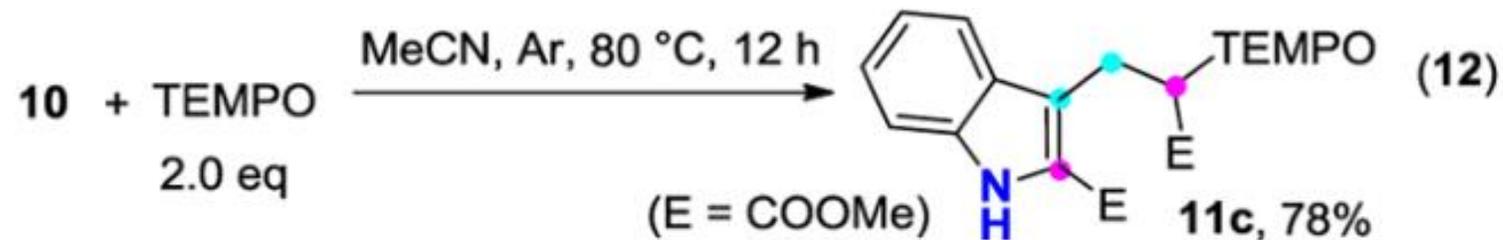
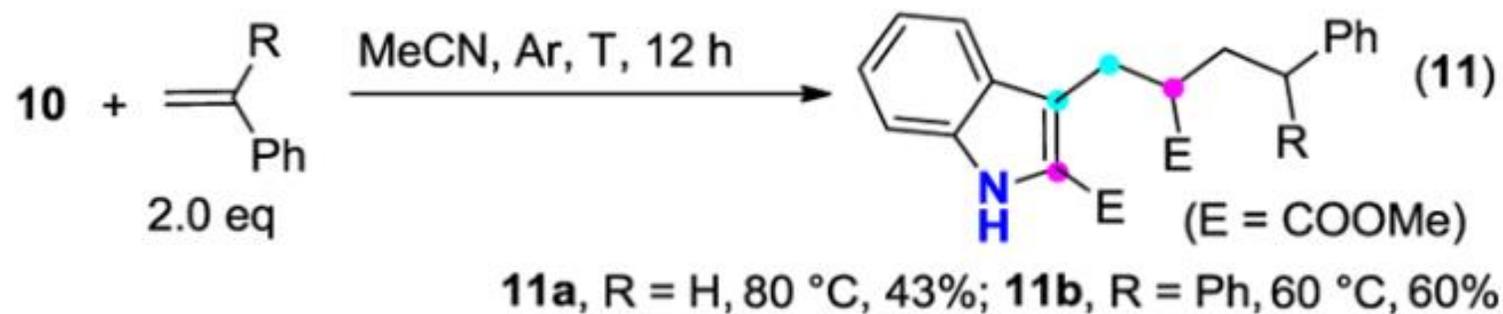
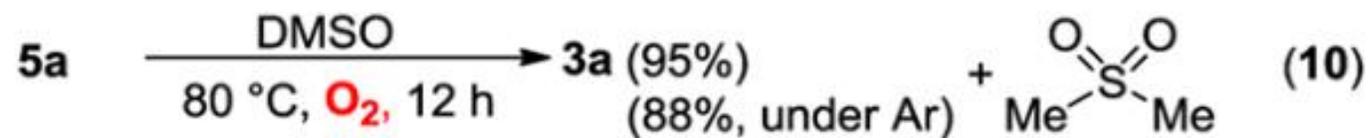
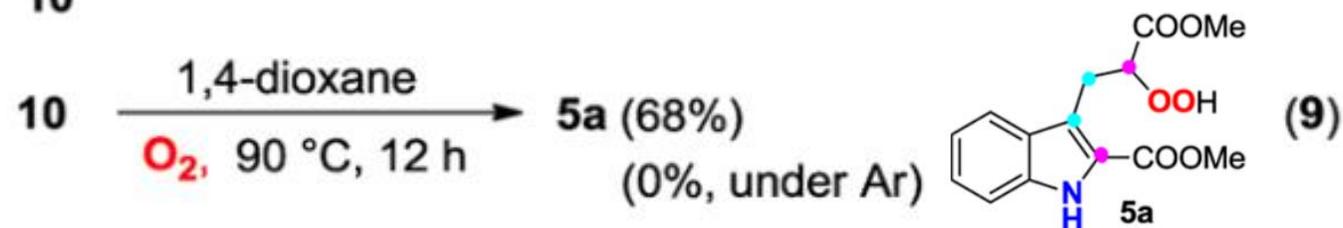
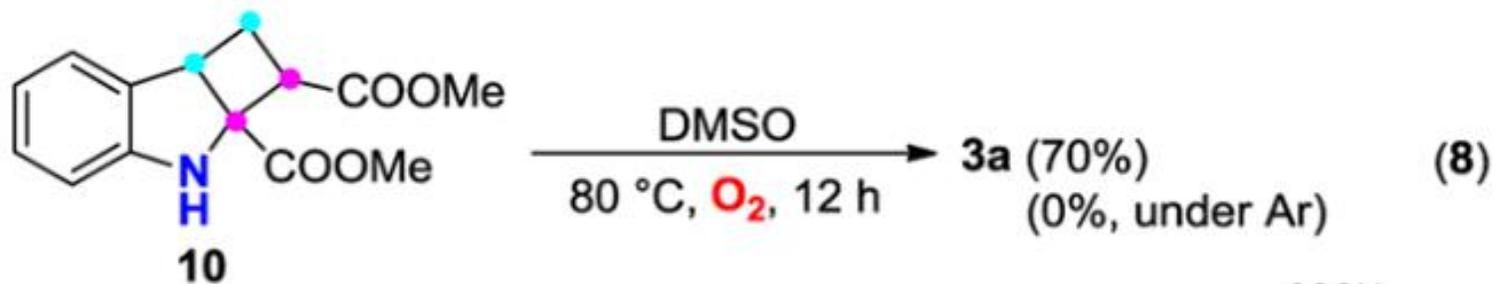
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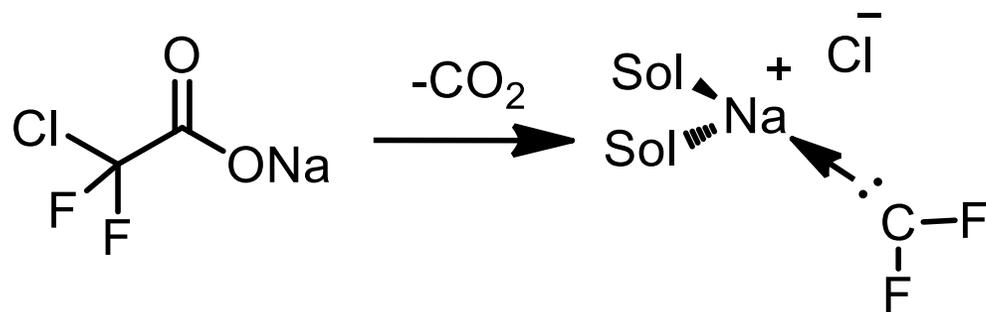
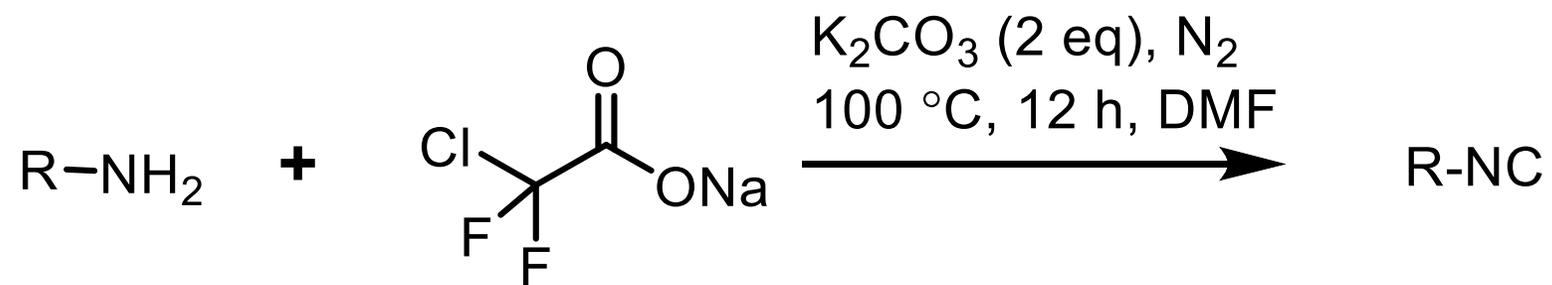
J. Am. Chem. Soc. **2016**, *138*, 13147.







4.



Org. Lett. **2020**, 22, 9086.

