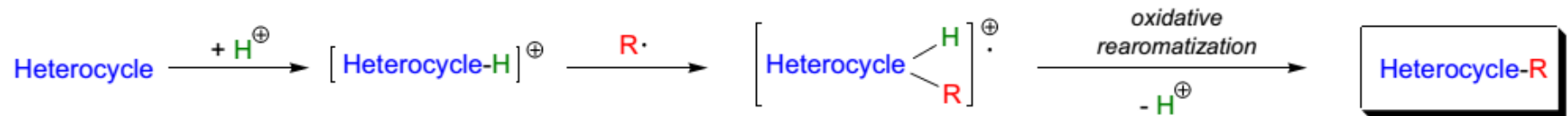
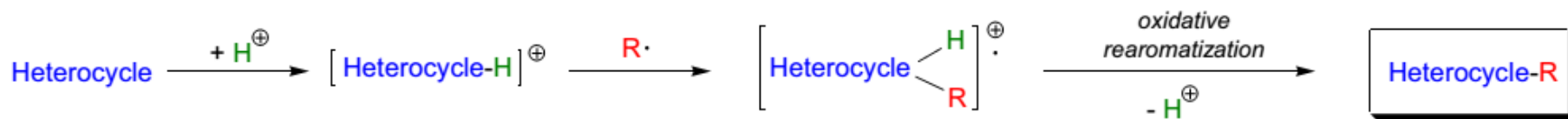


MINISCI REACTION



Importance

The substitution of protonated heteroaromatic bases by nucleophilic carbon-centered radicals is known as the **Minisci reaction**.



Most of the Minisci substitution reactions occur in aqueous or mixed aqueous media (e.g., methanol-water) under acidic conditions at room temperature. The reactions are immediate, and isolation of the organic products is convenient.

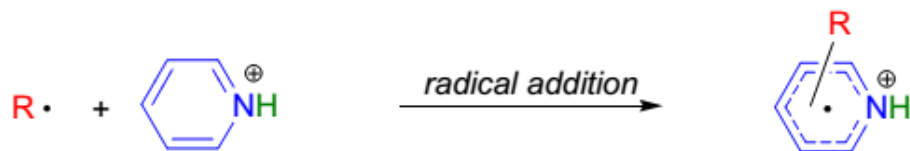
Mechanism

Polar effects influence the rates of the radical additions to the heteroaromatic ring by decreasing the activation energy as the electron deficiency of the heterocyclic ring increases.

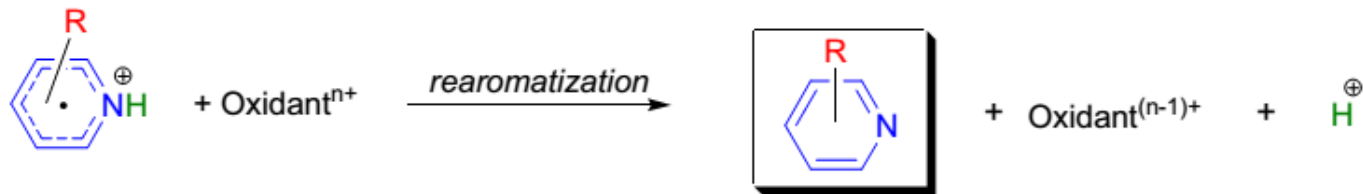
First step:



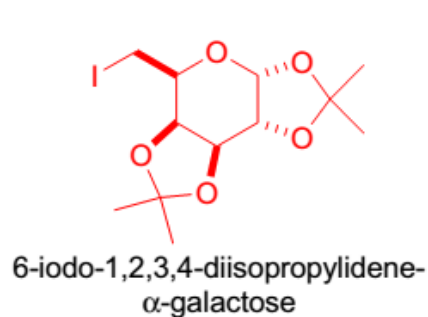
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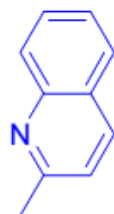
Third step:



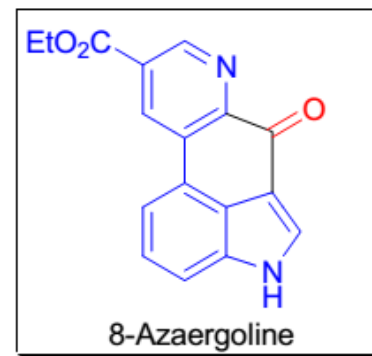
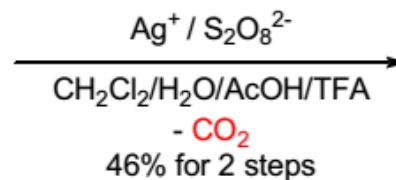
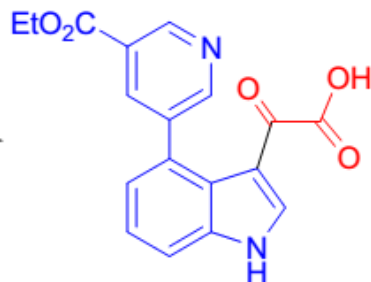
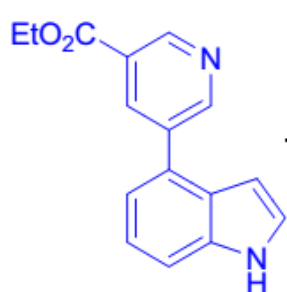
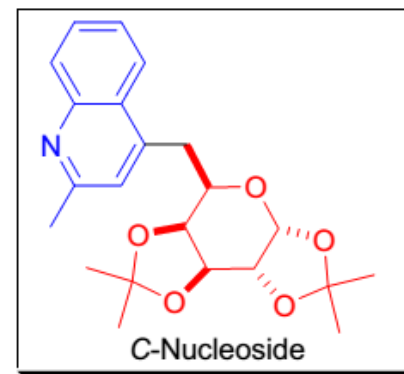
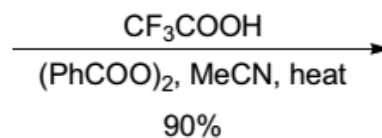
Synthetic Applications



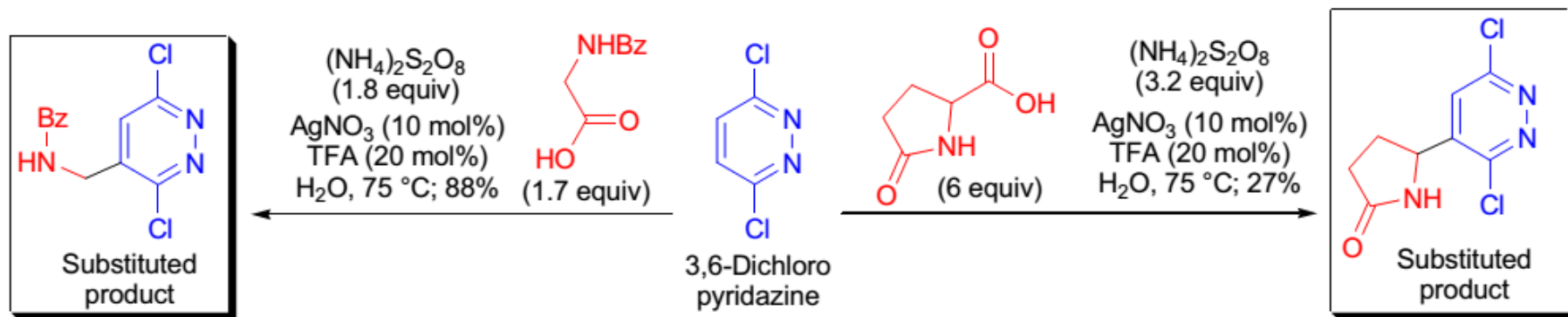
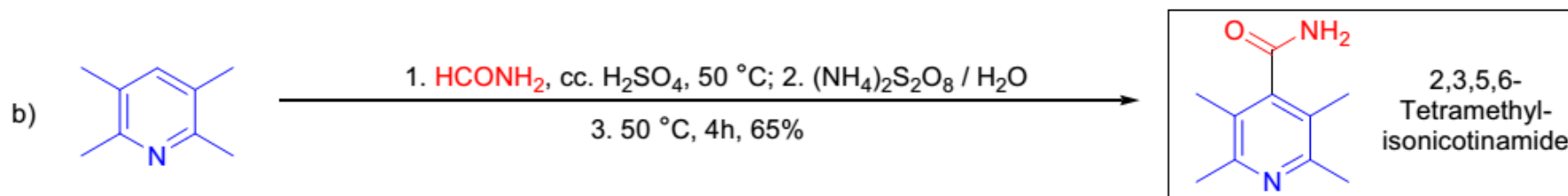
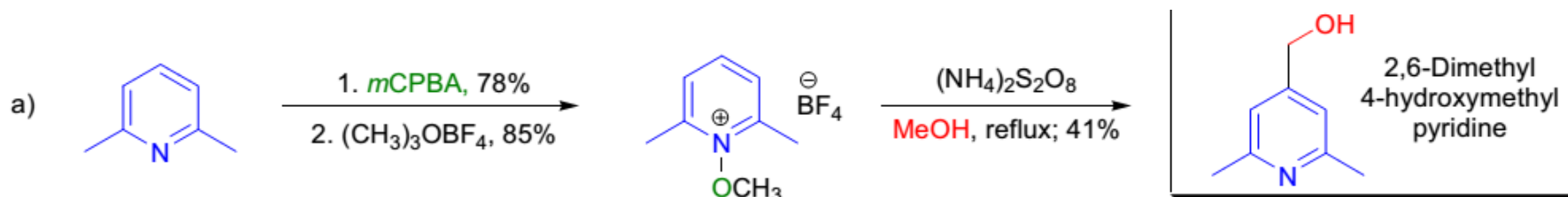
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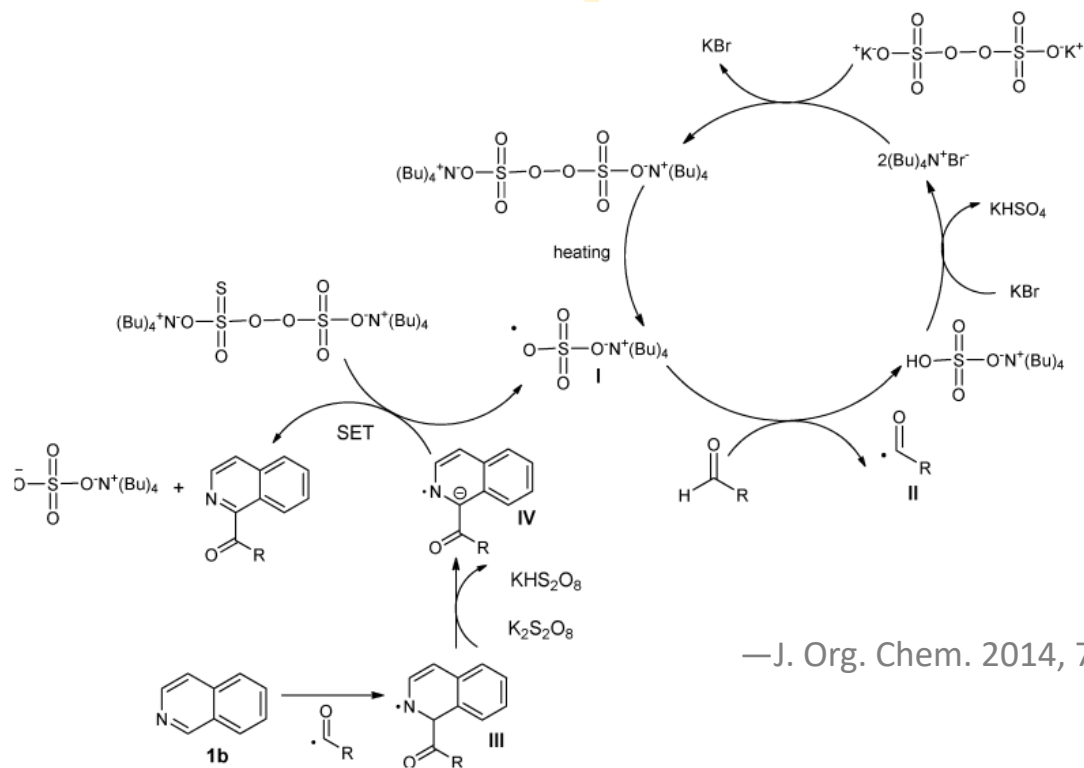
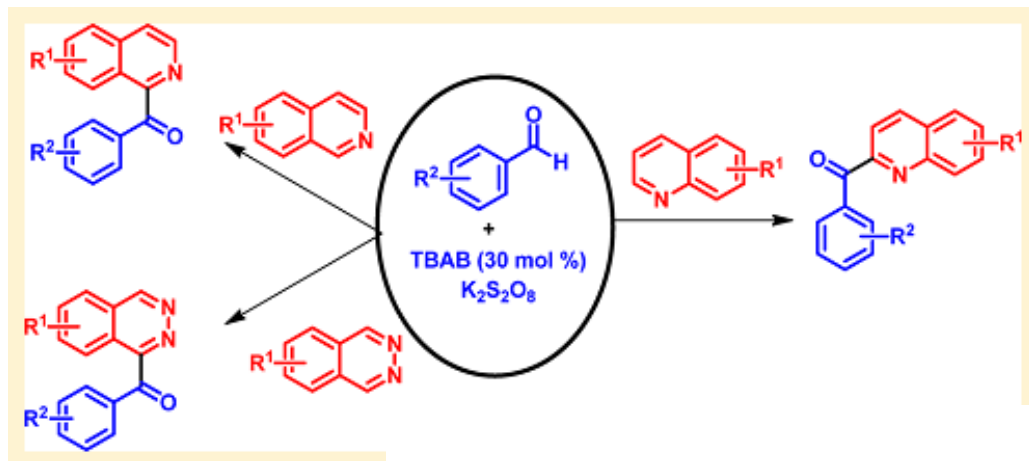
2-methyl-quinoline



Synthetic Applications

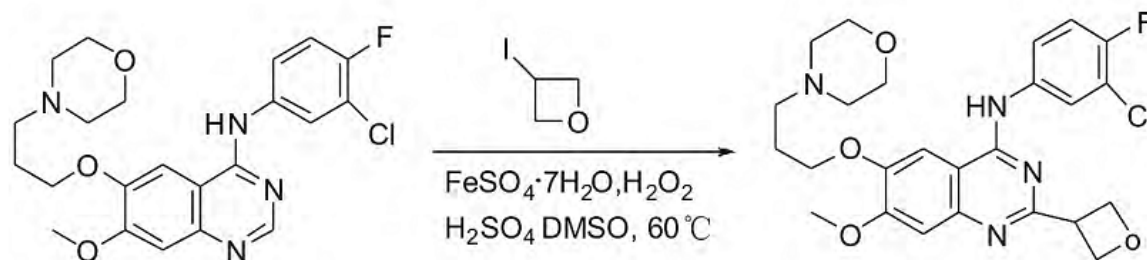


Synthetic Applications

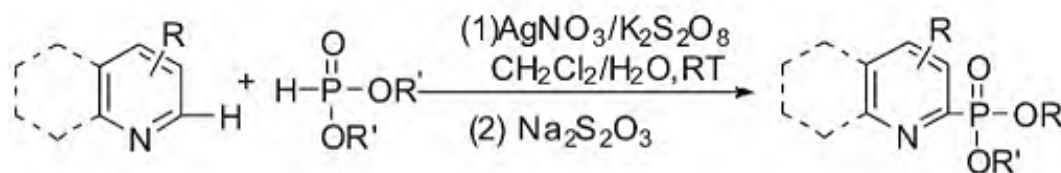


—J. Org. Chem. 2014, 79, 3856–3865

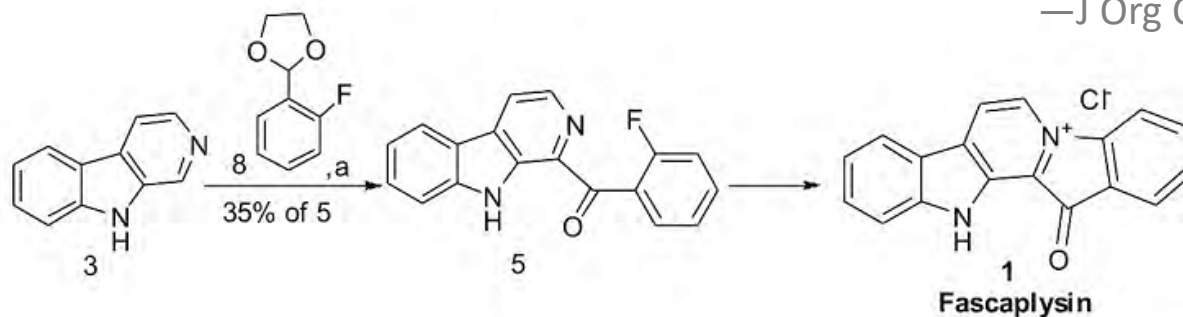
Synthetic Applications



—J Org Chem,2009,74

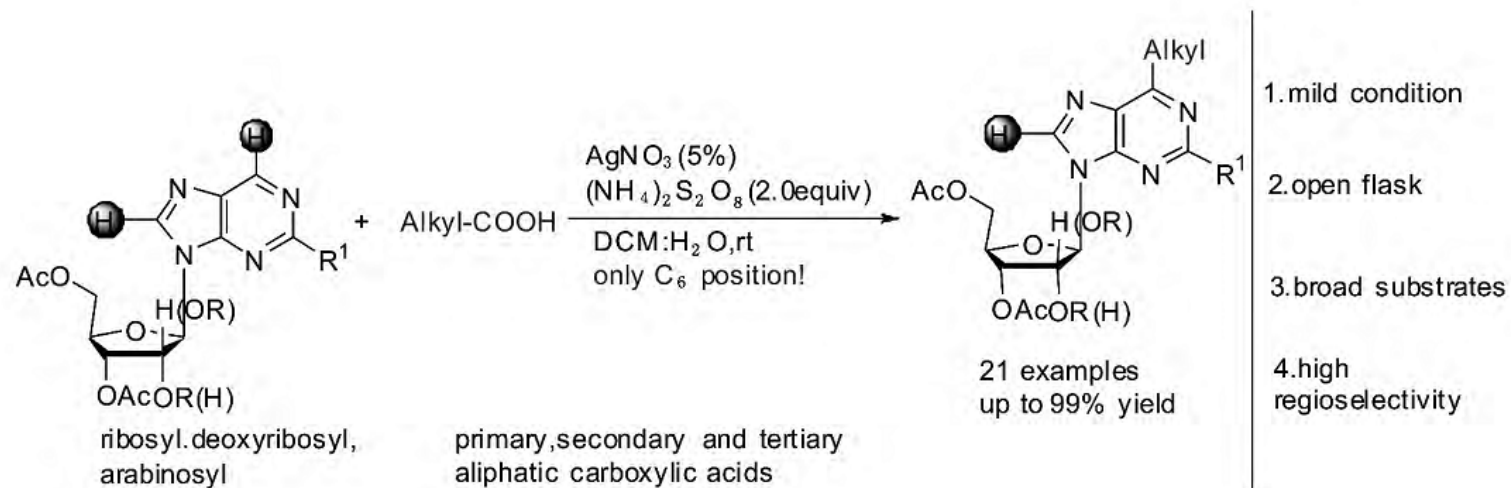


—J Org Chem,2012,77



—Tetra Letter,2013, 54

Synthetic Applications



C–H functionalization: Direct Minisci addition of feedstock ethers (1)

