

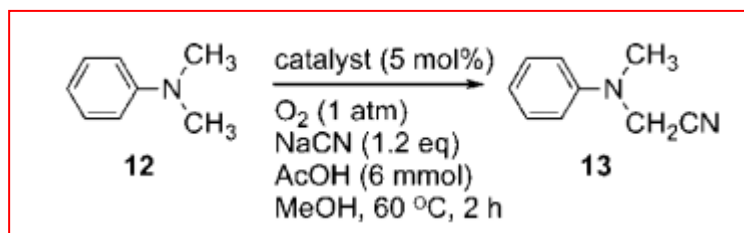
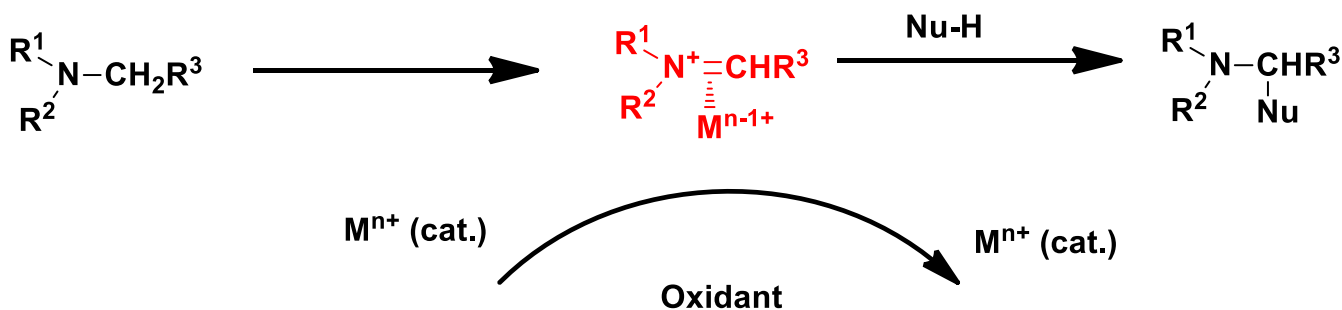
# ***Visible-light-mediated Organic Reactions of Tertiary Amines***

***Reporter: Yu Bole***

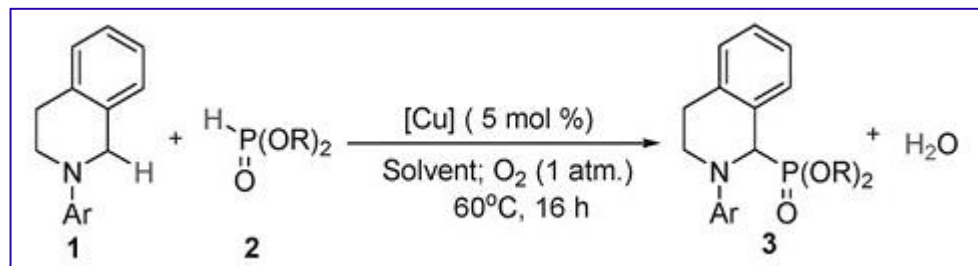
***Supervisor: Prof. Zhao, Dr. Hong***

***2014-02-24***

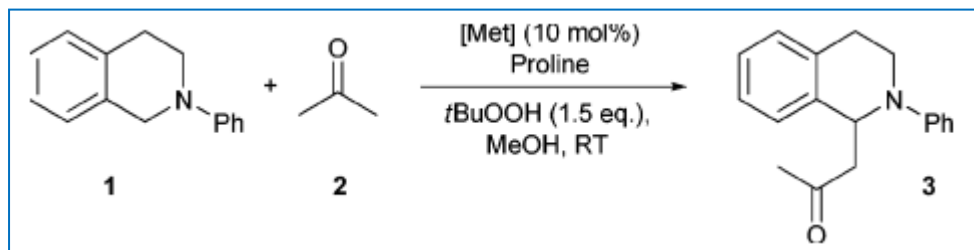
# Amines oxidation



(a)



(b)



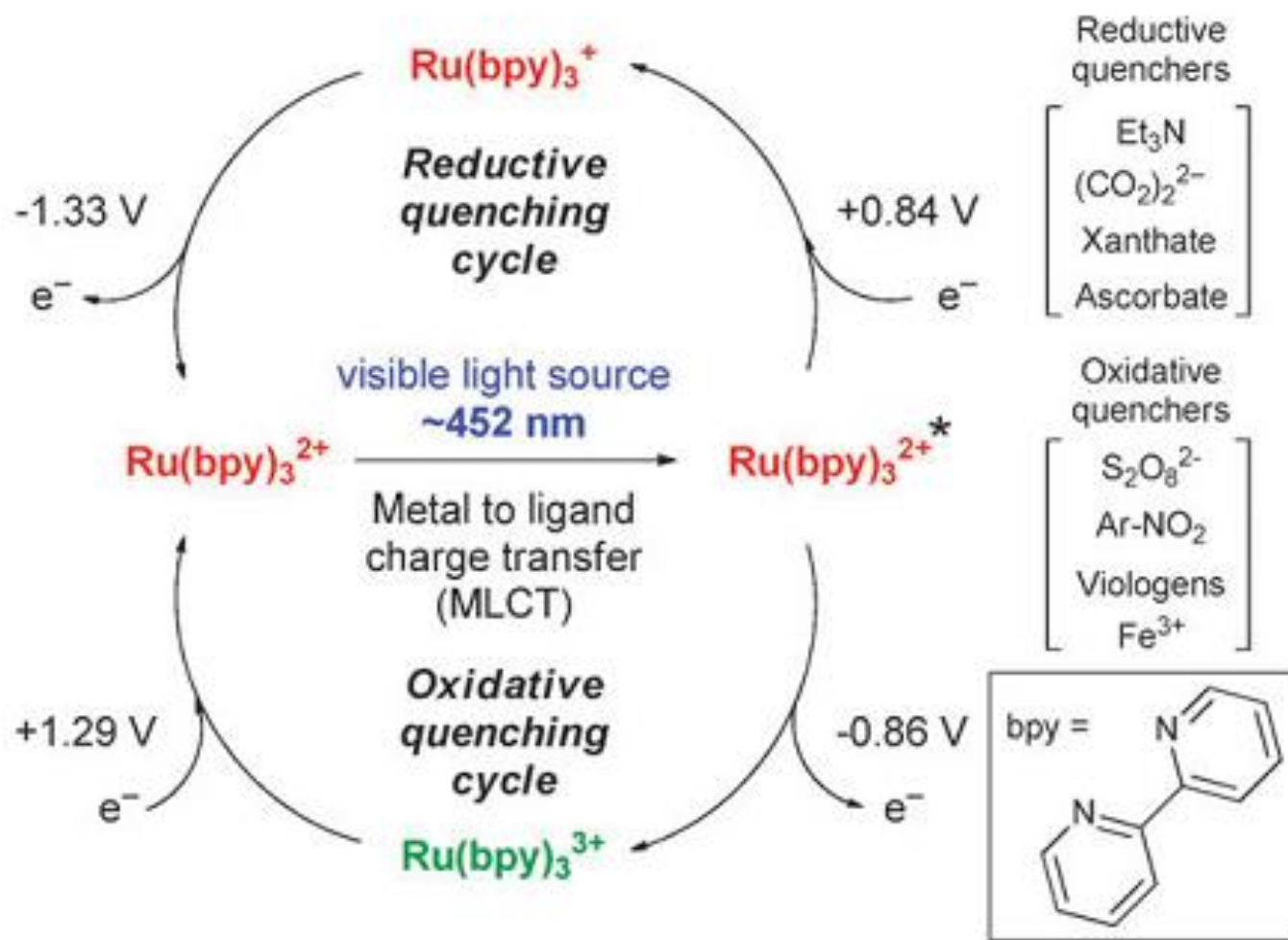
(c)

[a] S.-I. Murahashi, T. Nakae, H. Terai and N. Komiya, *J. Am. Chem. Soc.* **2008**, *130*, 11005-11012.

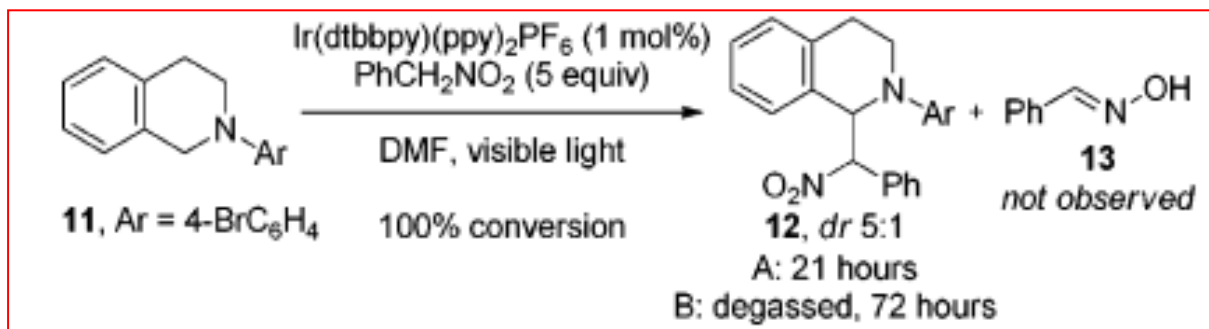
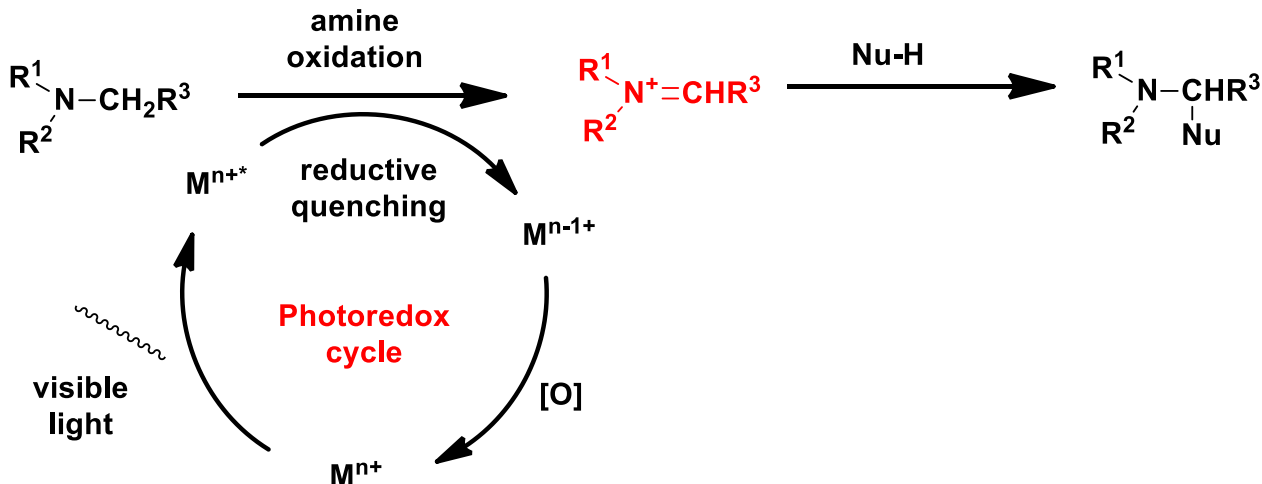
[b] O. Baslé and C.-J. Li, *Chem. Comm.* **2009**, 4124-4126.

[c] A. Sud, D. Sureshkumar and M. Klussmann, *Chem. Comm.* **2009**, 3169-3171.

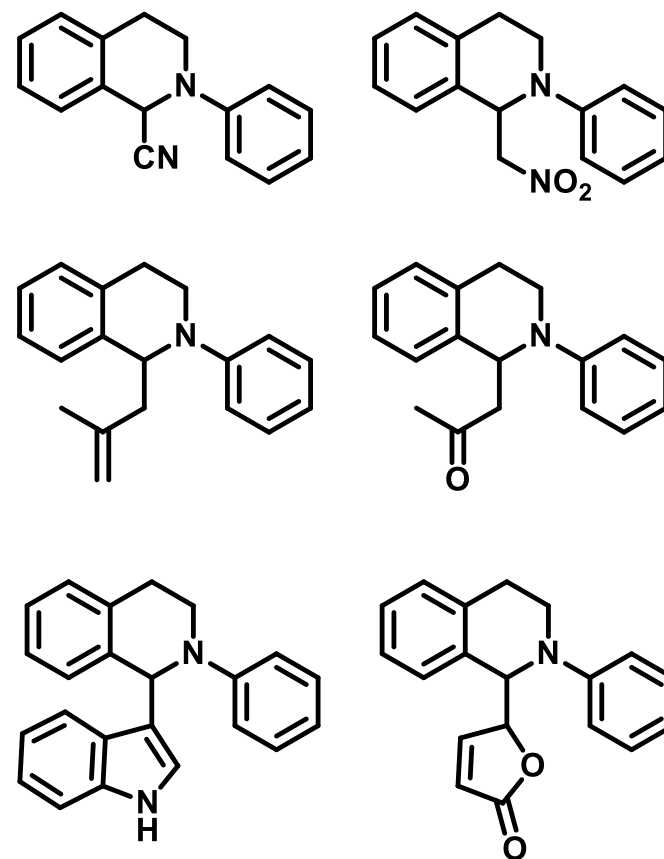
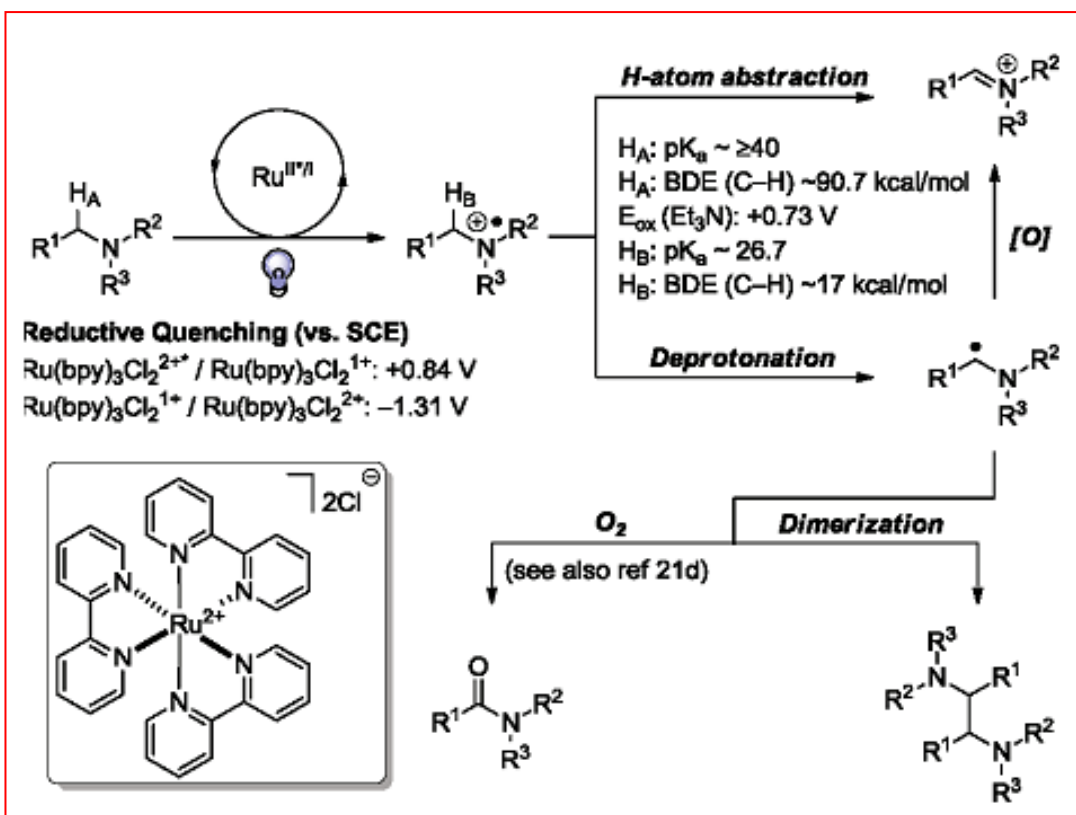
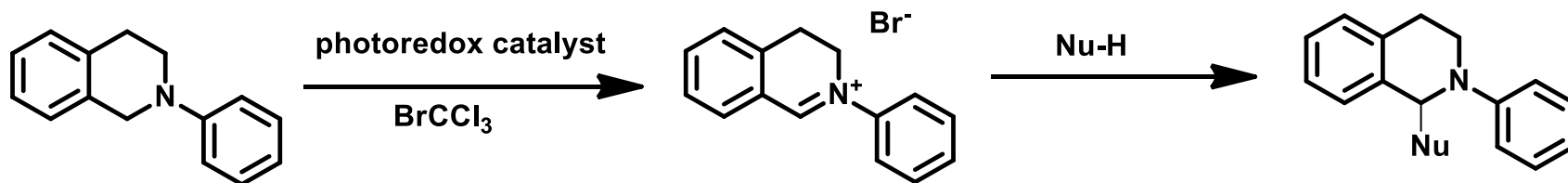
# Photoredox



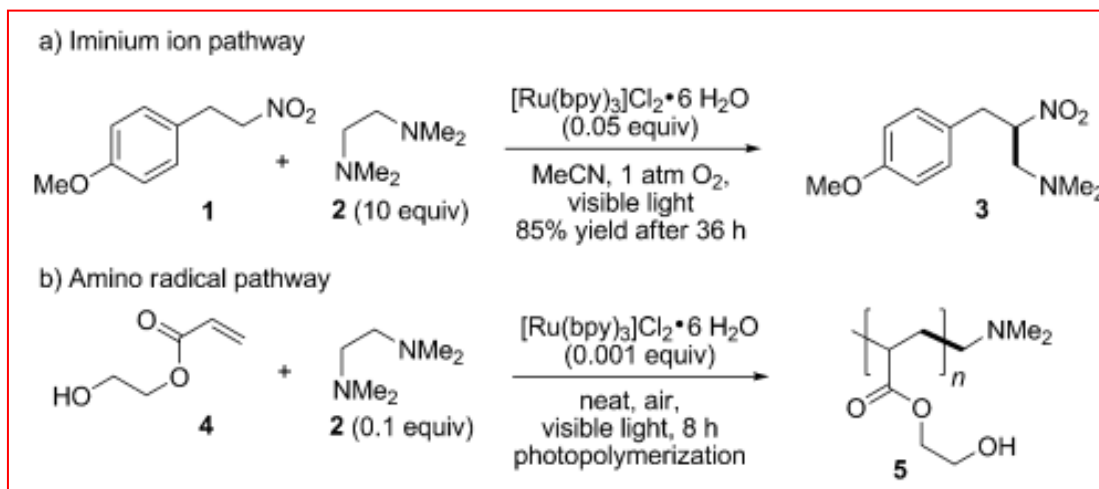
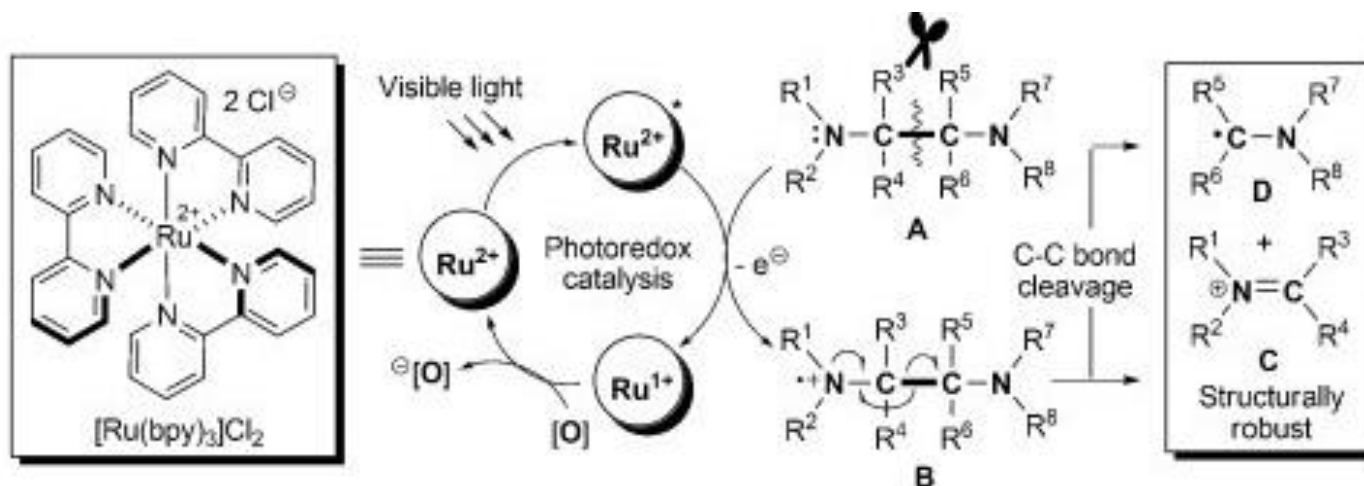
# Photoredox



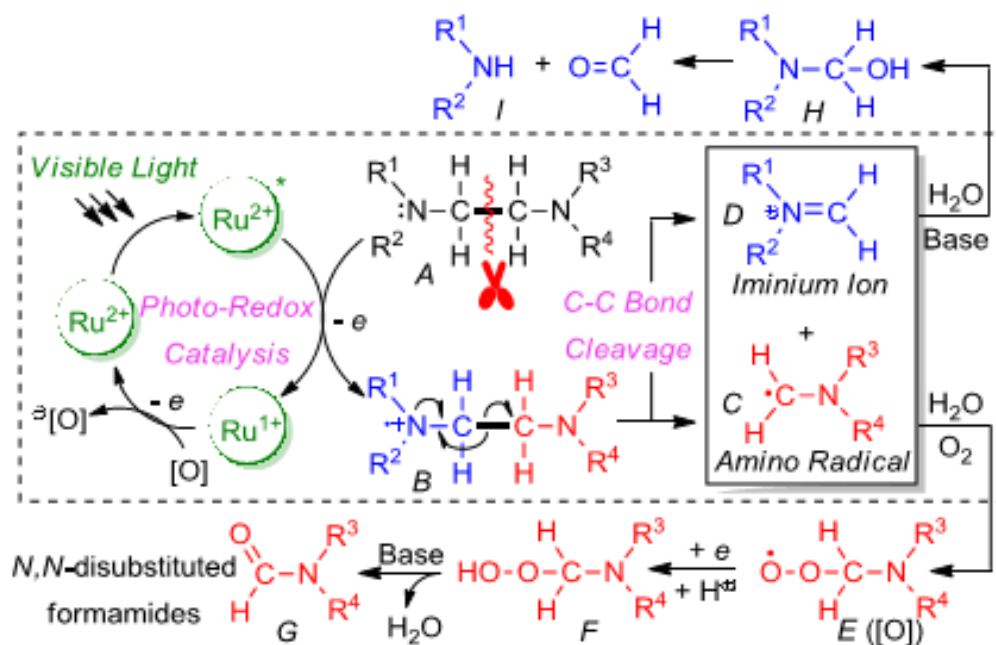
# Trapping of Iminium Intermediates



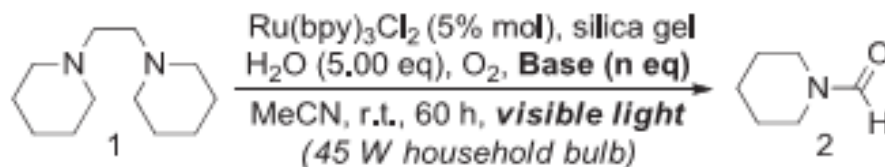
# C-C Bond Cleavage



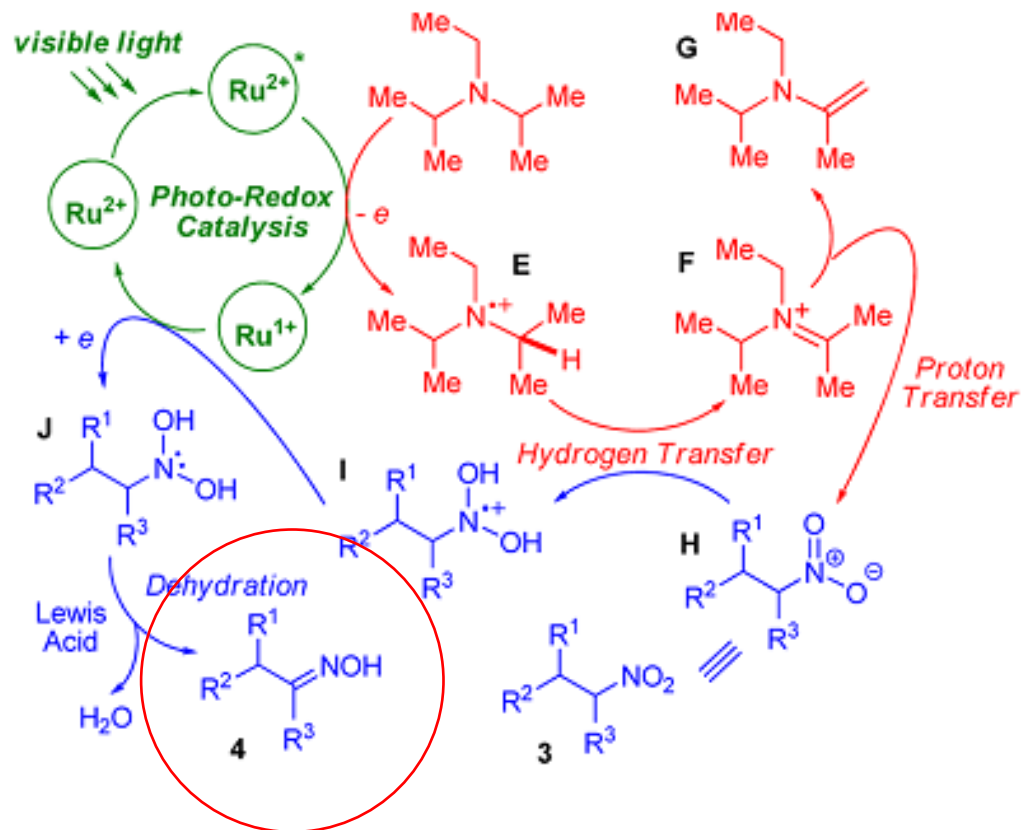
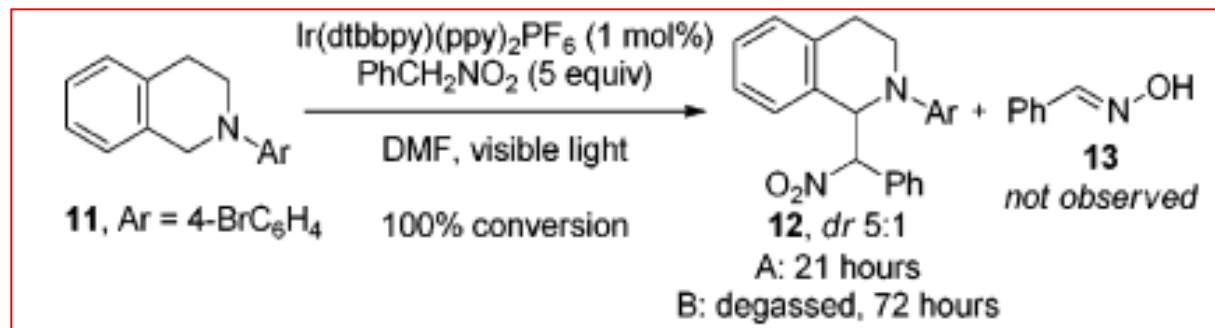
# C-C Bond Cleavage



The base effect in formamide formation

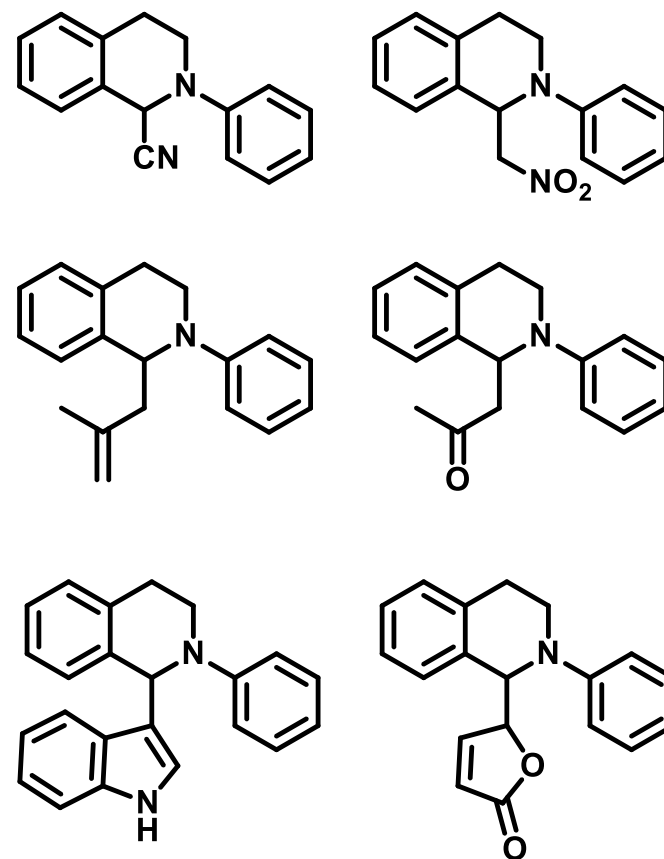
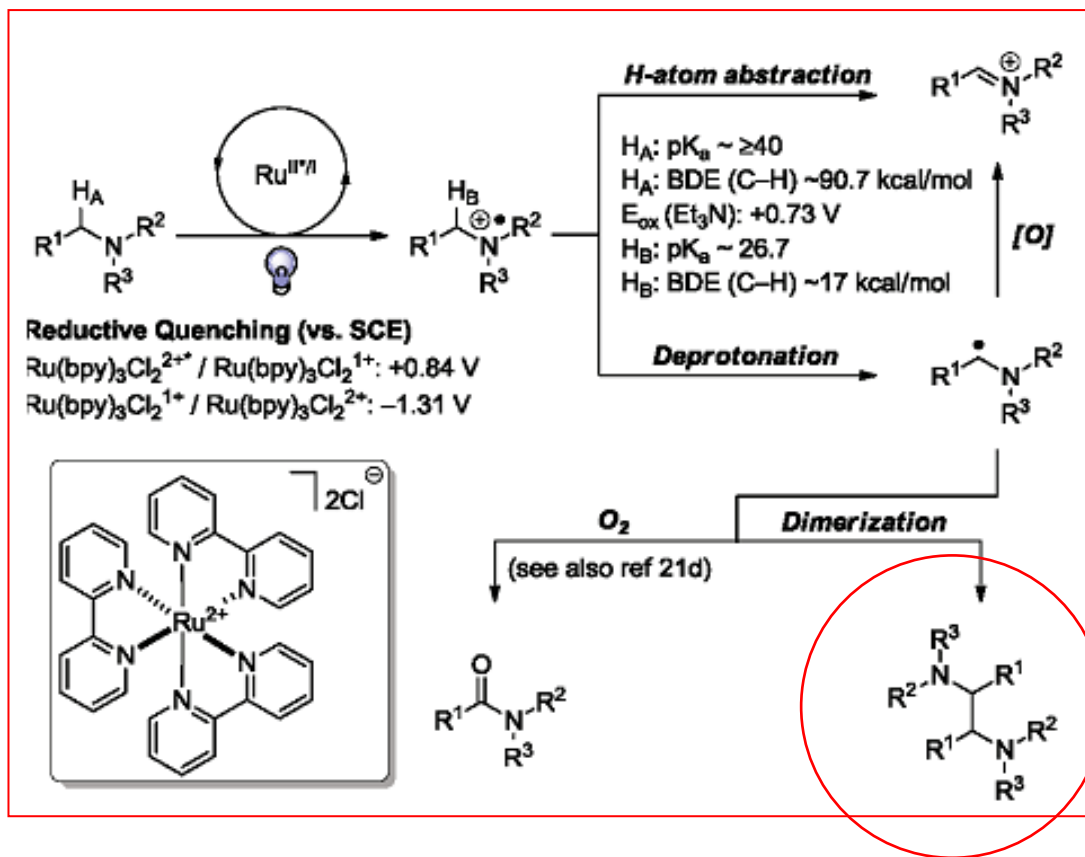
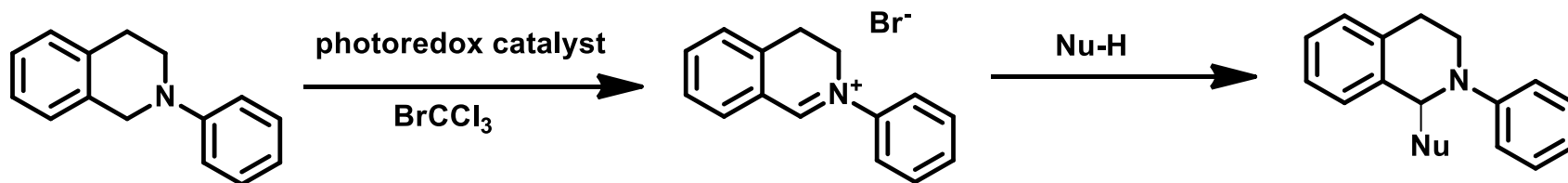


Base	DBU	NaOH	KOH	K <sub>2</sub> CO <sub>3</sub>	CS <sub>2</sub> CS <sub>2</sub> CO <sub>3</sub>	CS <sub>2</sub> CO <sub>3</sub>	CS <sub>2</sub> CO <sub>3</sub>
n (equiv)	3.0	3.0	3.0	3.0	3.0	1.0	0.5
Yield <sup>a</sup>	Trace	47%	16%	49%	81%	97%	6.9%





# Trapping of Iminium Intermediates



**THANK YOU !**