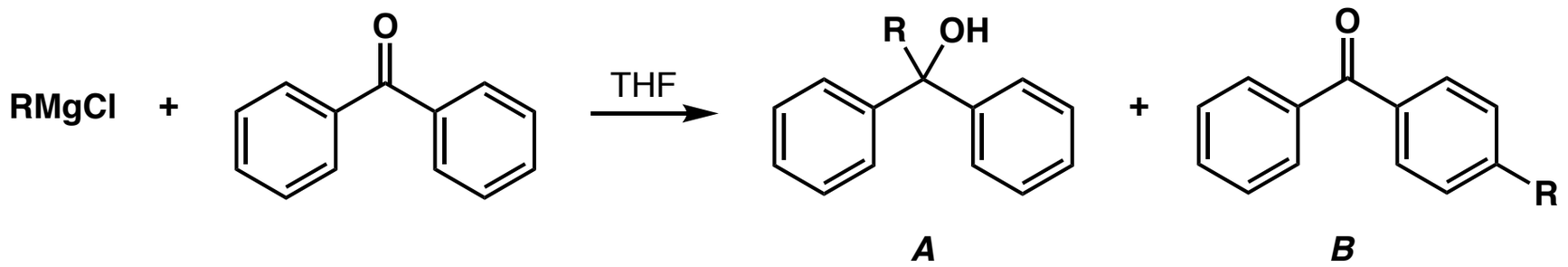
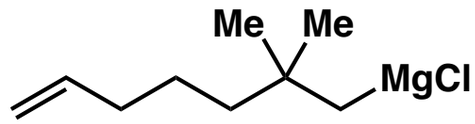
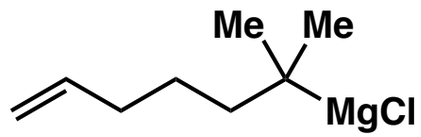
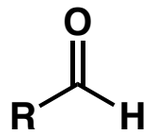
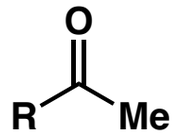
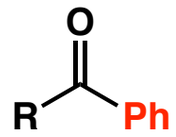
■ **It is noticed that,**



RMgCl	Yield of A	Yield of B
	100%	0%
	**58%**	**42%**

Ashby, E.; Bowers, J. *JACS* **1981**, 103, 2242

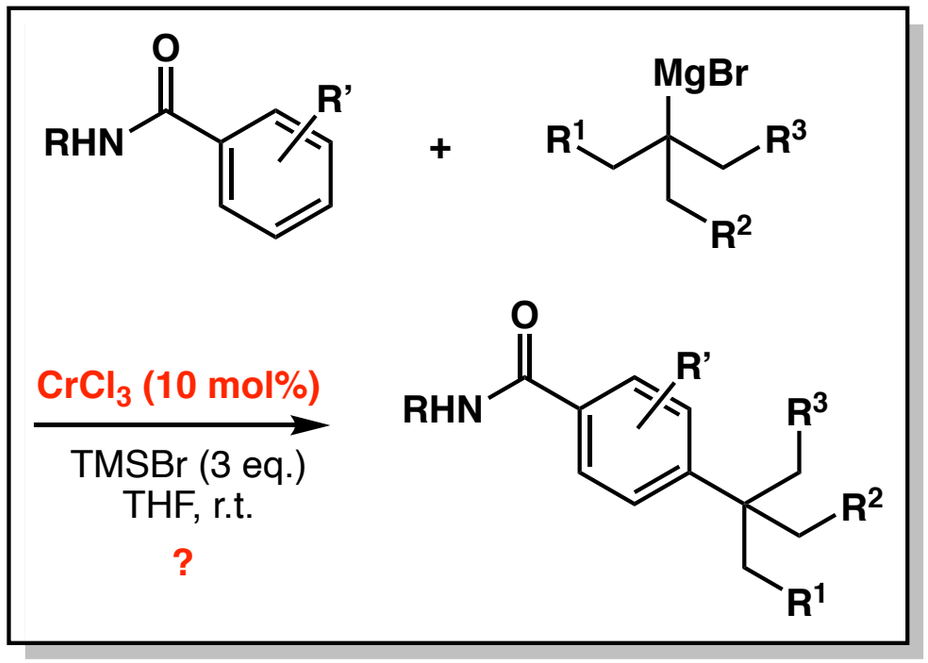
■ **Probably because mechanistically,**

			
***n*-Pr-MgCl**	2 e$^-$	2 e$^-$	2 e$^-$
***i*-Pr-MgCl**	—	—	2 e$^-$
***t*-Bu-MgCl**	2 e$^-$	no rxn	**SET**
Bn-MgCl	2 e$^-$	2 e$^-$	2 e$^-$
Allyl-MgCl	2 e$^-$	2 e$^-$	2 e$^-$
…	…	…	…

R = fluorenylcyclopropyl (radical clock)

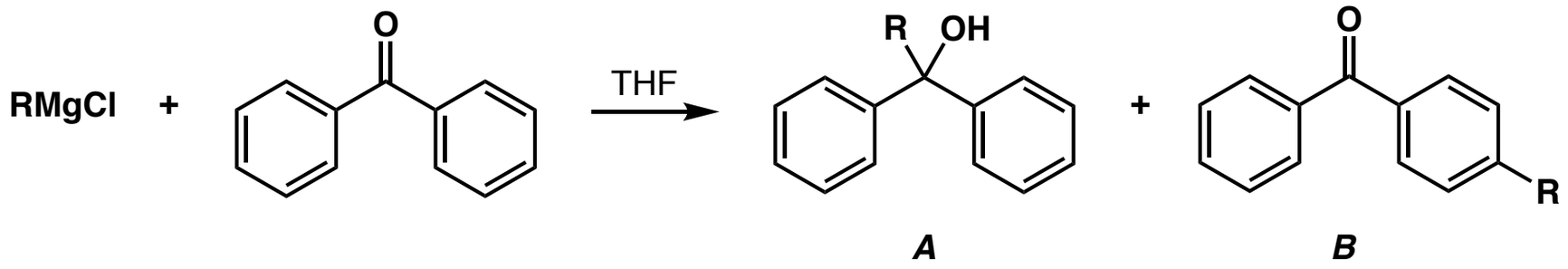
Bartolo, N.; Woerpel, K. *JOC* **2020**, 85, 7848

■ **With these mechanistic information, try explaning how $CrCl_3$(cat.) facilitate this transformation:**



Liu, P., *et. al. Nature Comm*, **2018**, 9, 4637

■ **Competition between 1,2-addtion (path a.) and 1,6-addition products (path c.)**



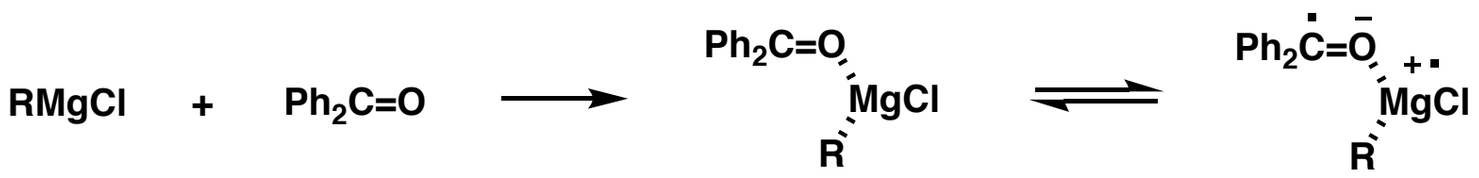
A

"1,2-addtion"

B

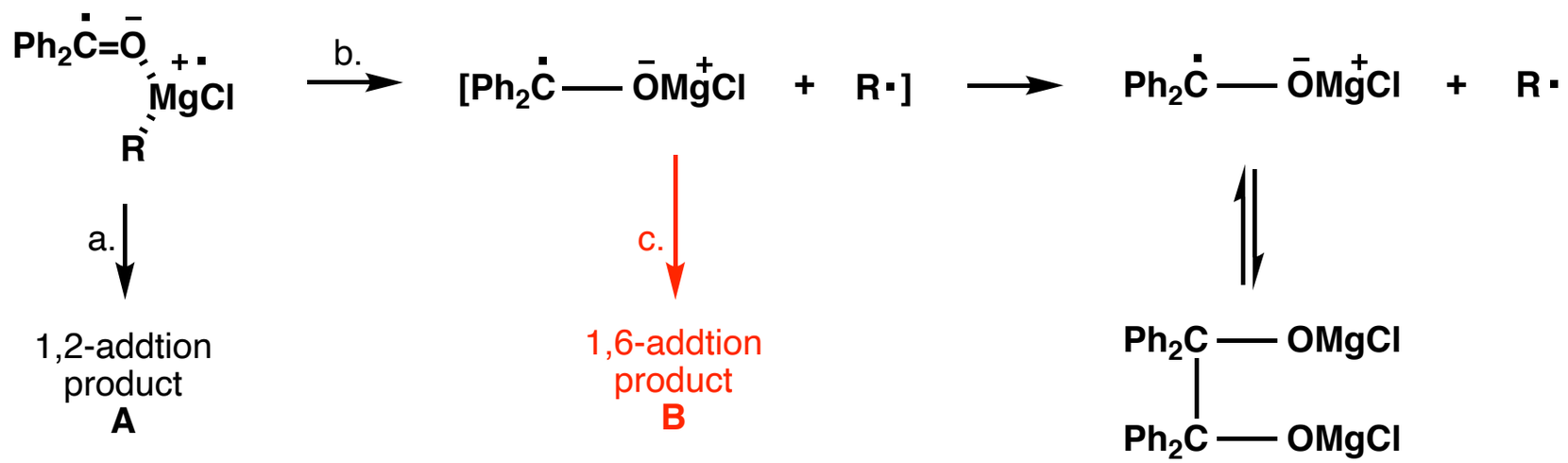
"1,6-addtion"

Mechanism:



"sigma complex"

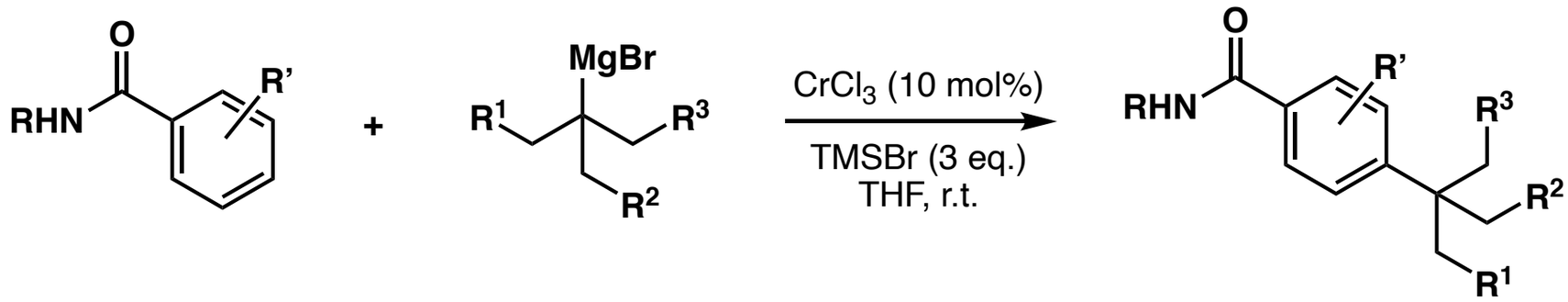
"SET intermediate"



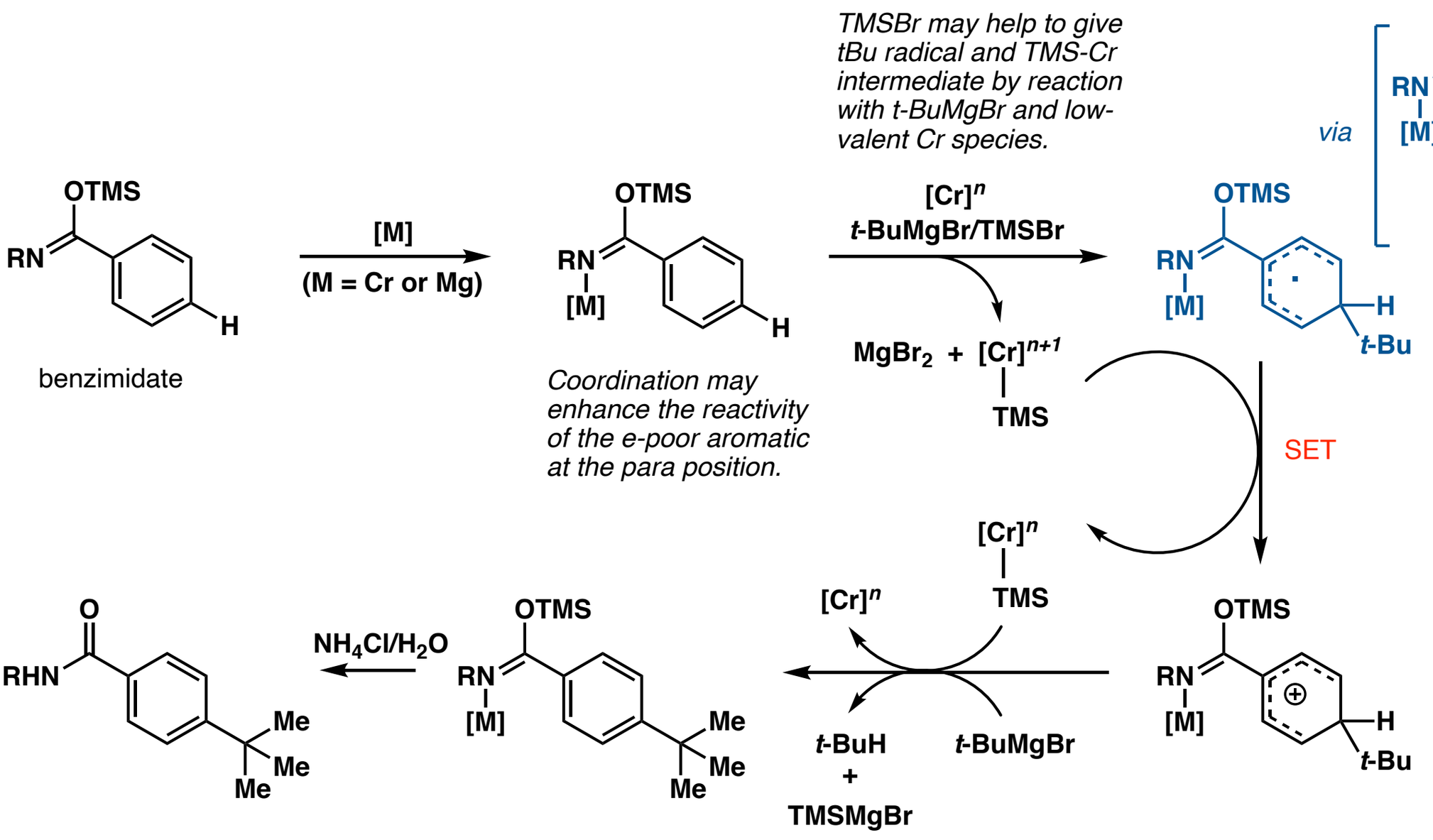
when R = primary alkyl
rate const. = 10^7 - 10^9 L mol^{-1} s^{-1}

Ashby, E.; Bowers, J. *JACS* **1981**, 103, 2242

■ **Enforcement of path c.**



Mechanism:



Liu, P., *et. al. Nature Comm*, **2018**, 9, 4637