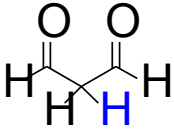
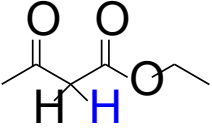
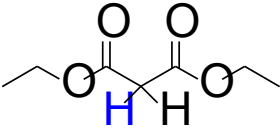
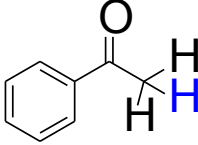
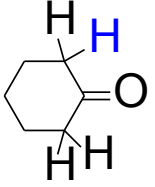
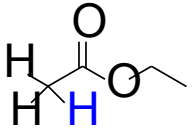
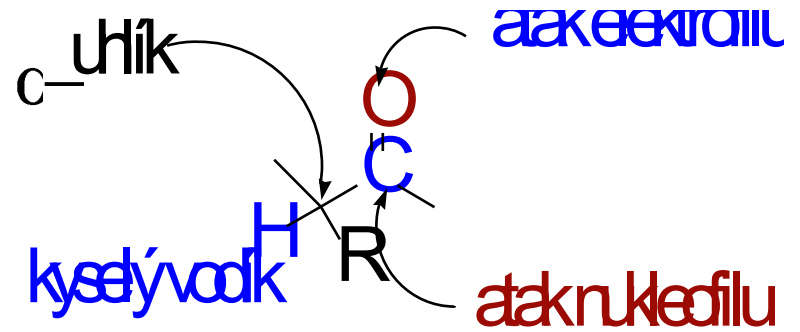


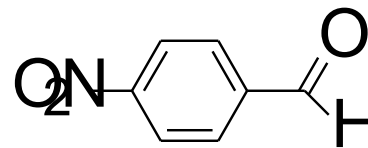
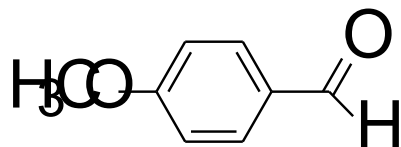
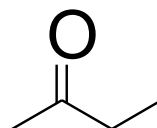
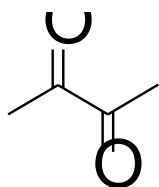
KARBONYLOVÉ SLOUČENINY



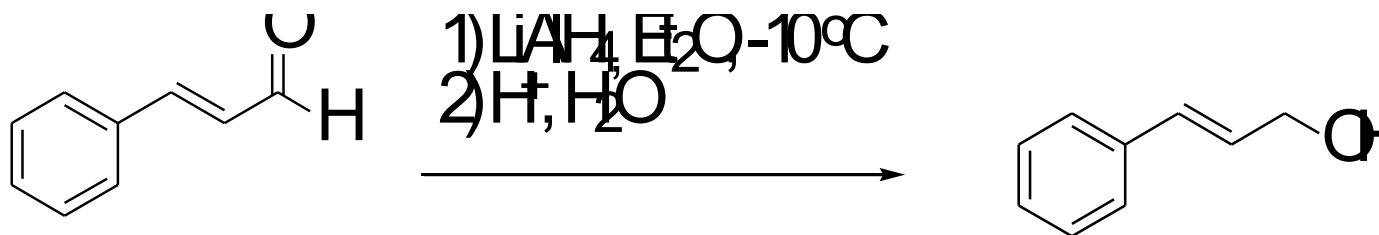
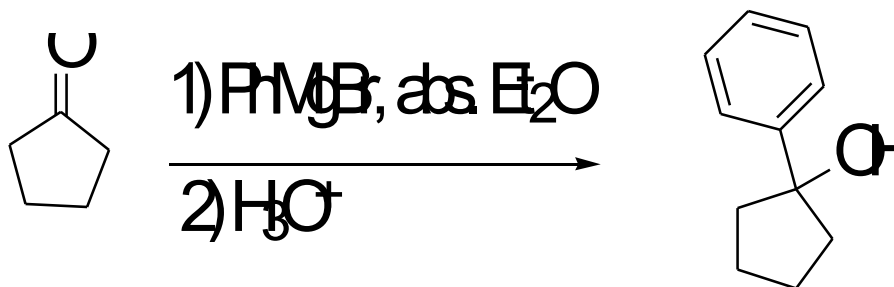
	50
	107
	129
	158
	167
	245



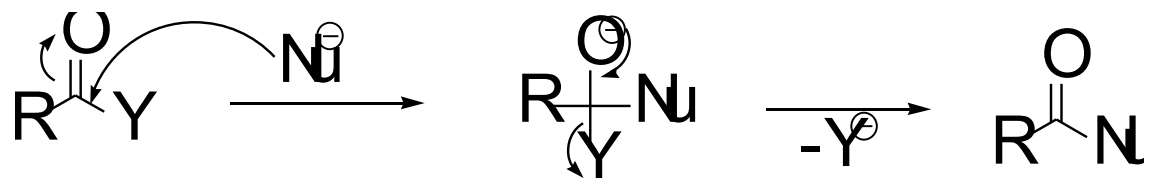
Která ze sloučenin v uvedených dvojicích je reaktivnější při adiční reakci na karbonyl



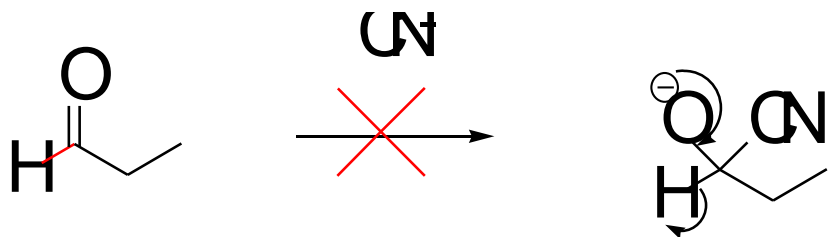
1) Nukleofilní adice



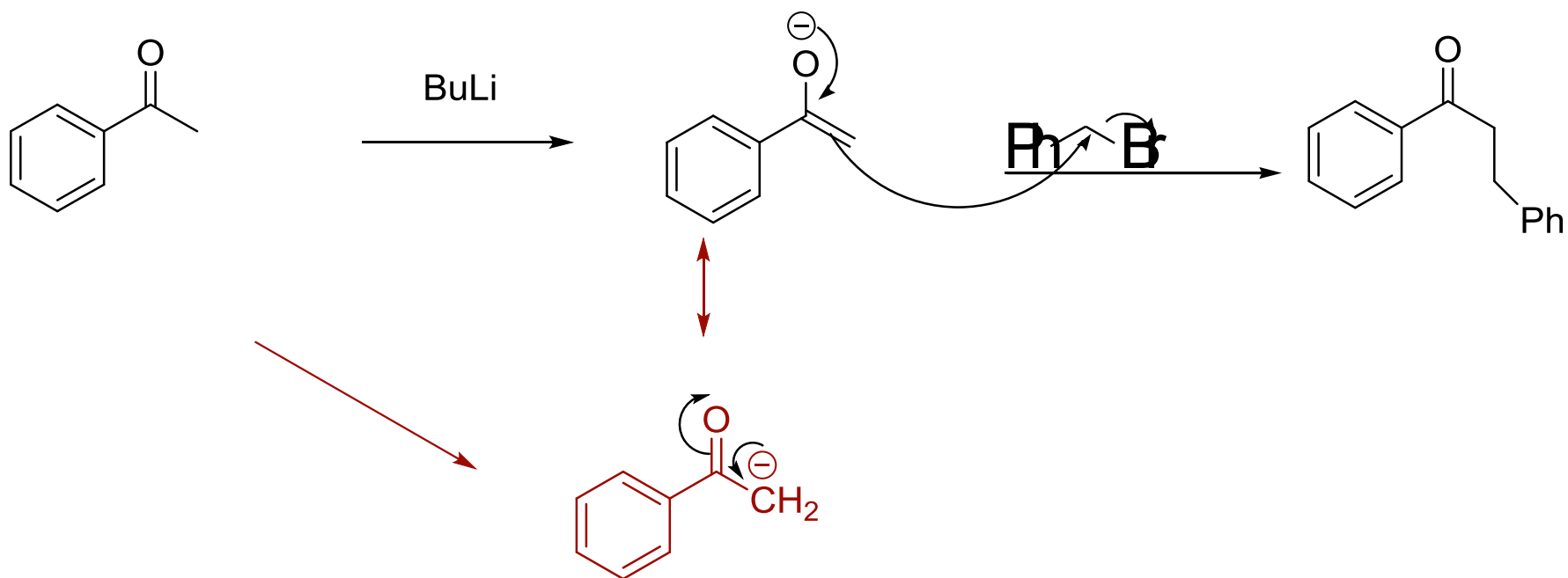
2) Nukleofilní acylová substituce



ne u aldehydů a ketonů vysvětlete !!!



3) Substituce na alfa-uhlíku

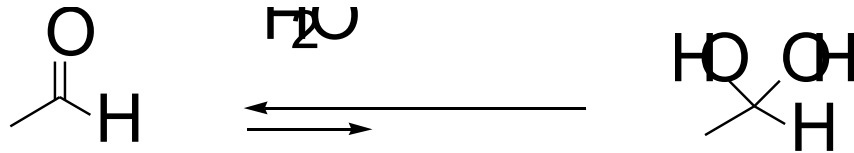


4) Reakce typu aldolizace

– reagují dvě molekuly karbonylové sloučeniny

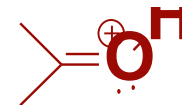


Tvorba hydrátů



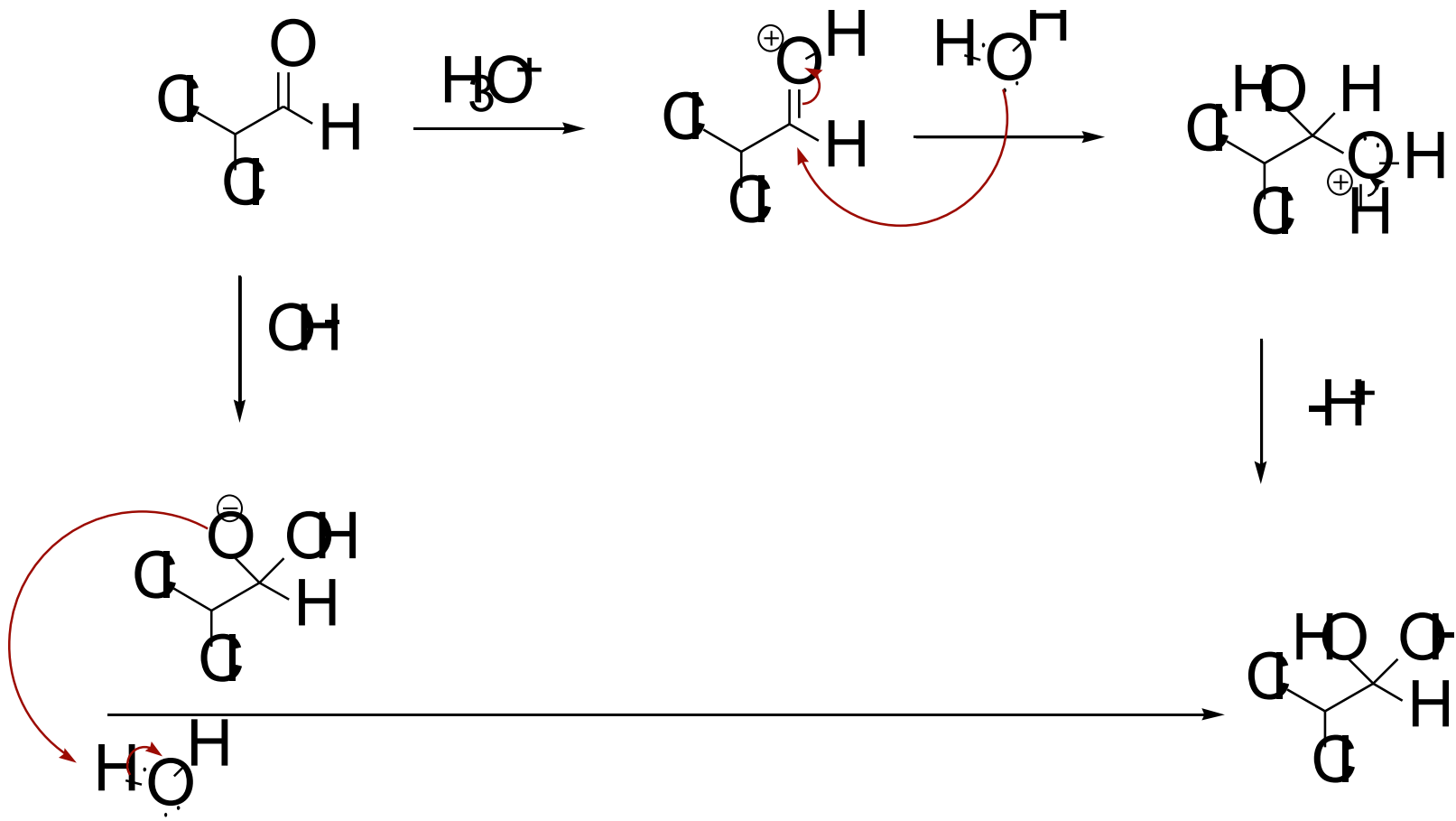
více než 99,9 %

hydratace může být kysele i bazicky katalyzovaná

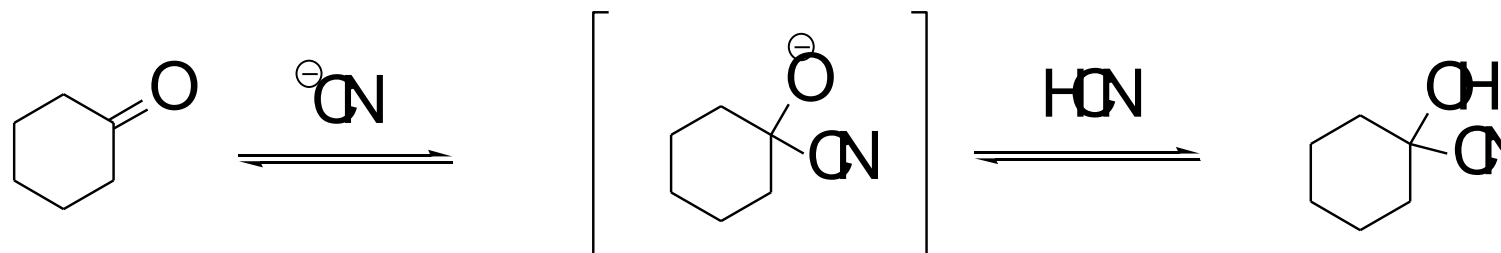


$pK_a = -8$

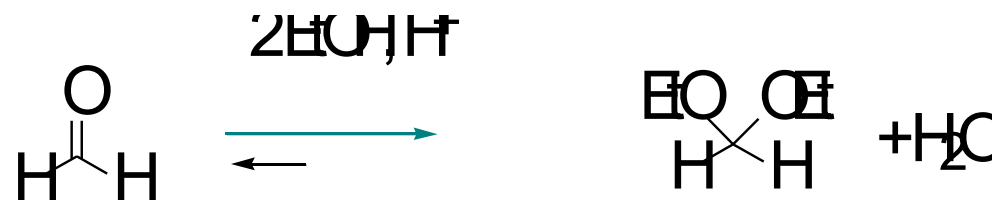


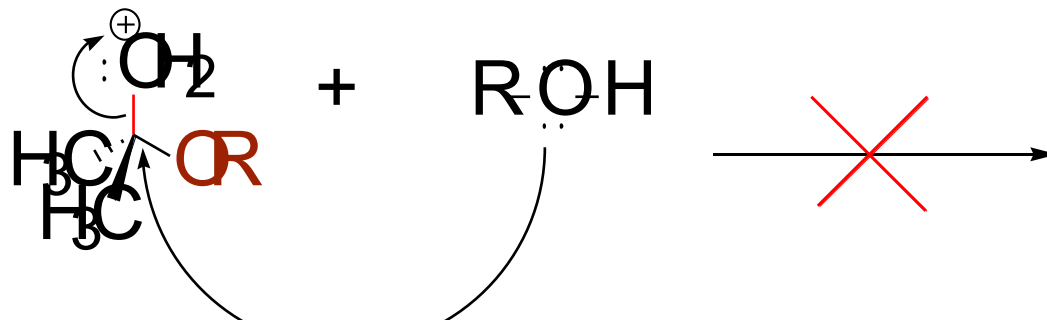


Tvorba kyanhydrinů

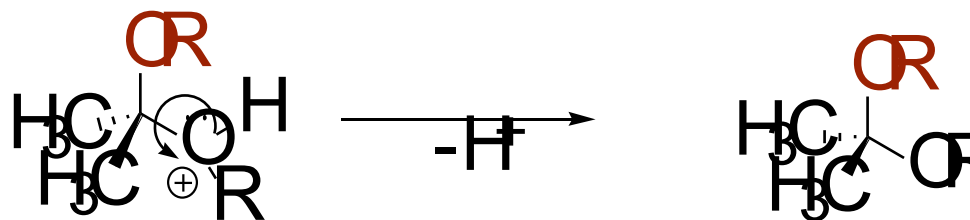
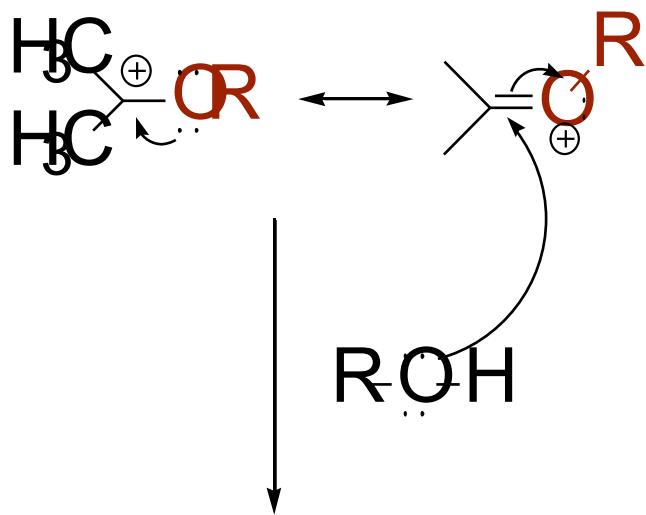


Tvorba hemiacetalů a acetalů

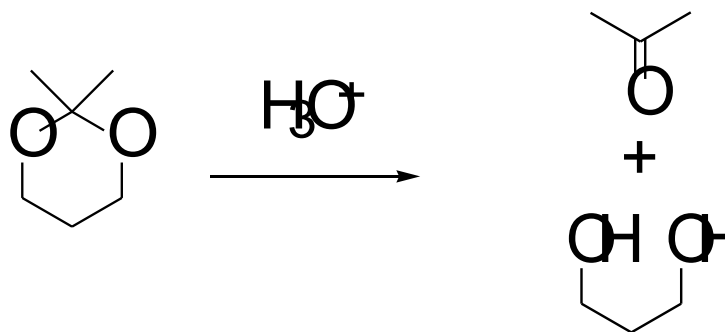
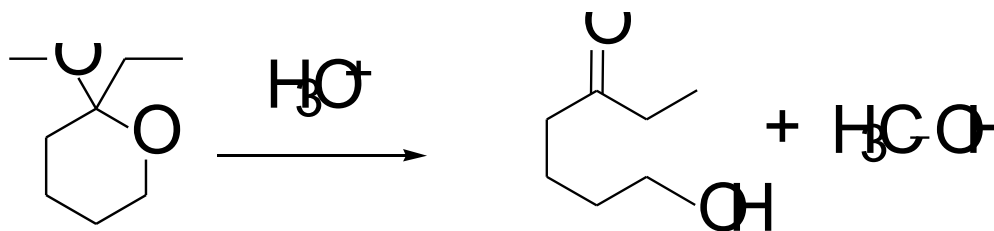
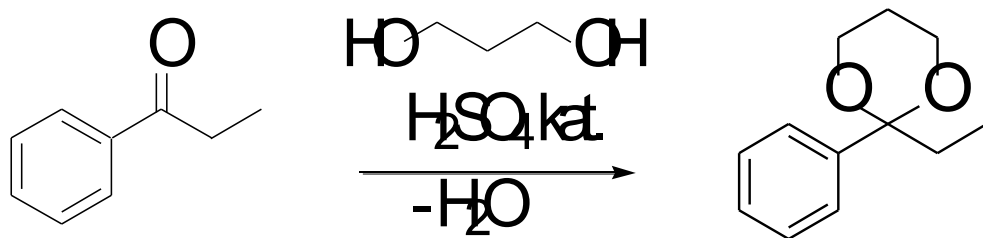




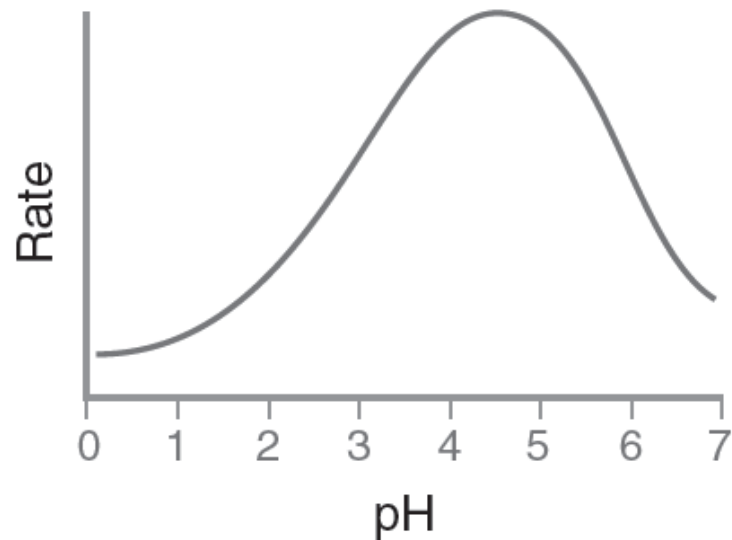
POZOR
při psaní mechanismu



Doplňte produkty reakcí



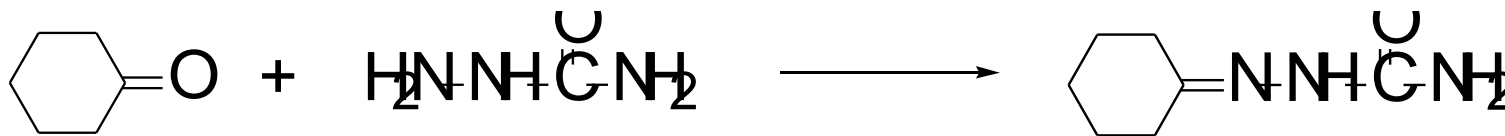
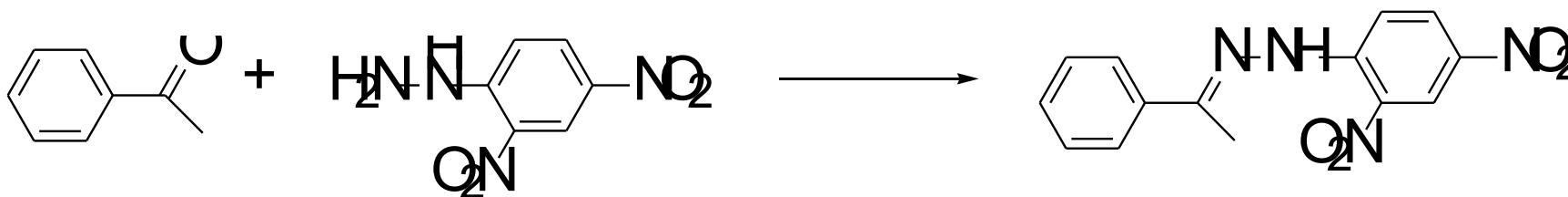
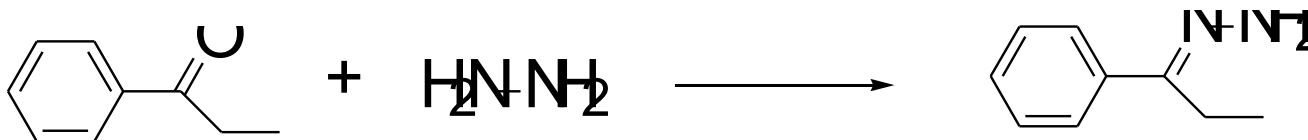
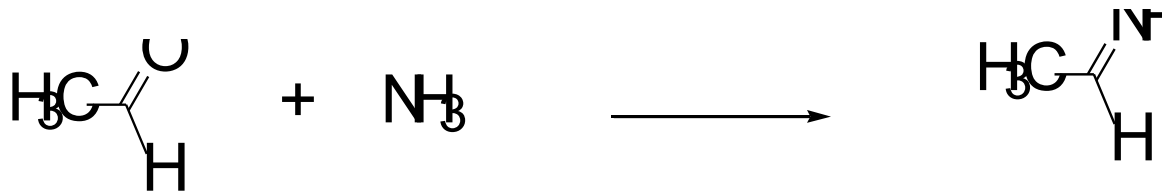
Reakce s deriváty amoniaku



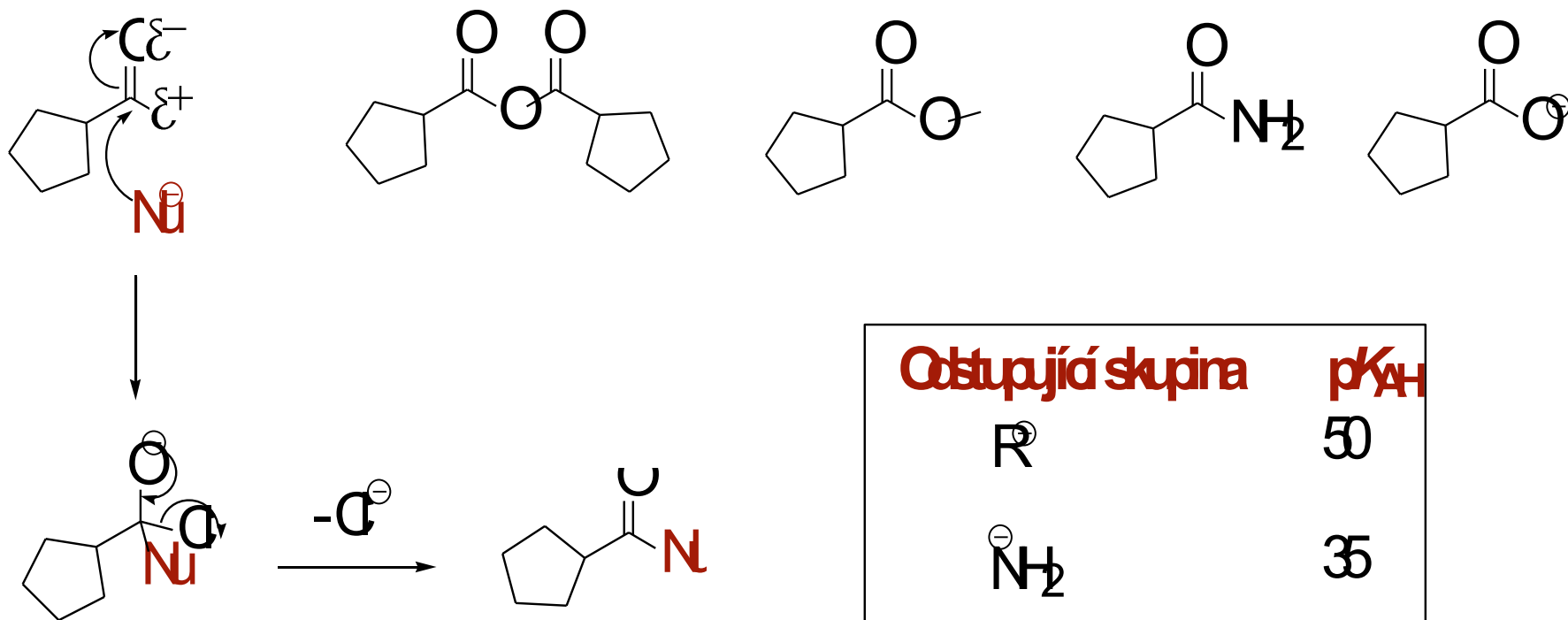
závislost rychlosti vzniku iminu
na pH



Reakce s deriváty amoniaku



Funkční deriváty karboxylových kyselin



Odstupující skupina

$\text{p}K_{\text{AH}}$

R^-

50

NH_2^-

35

RO^-

16

RCOO^-

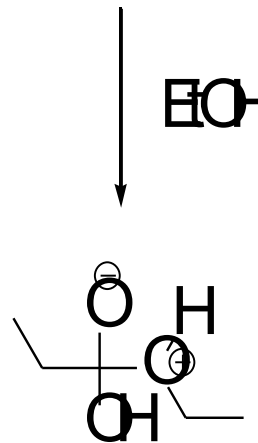
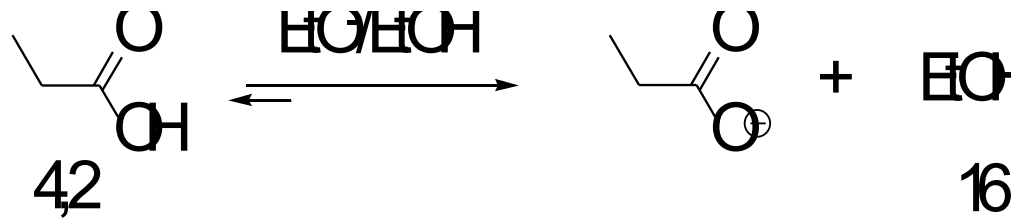
5

Cl^-

-7



Estery karboxylových kyselin

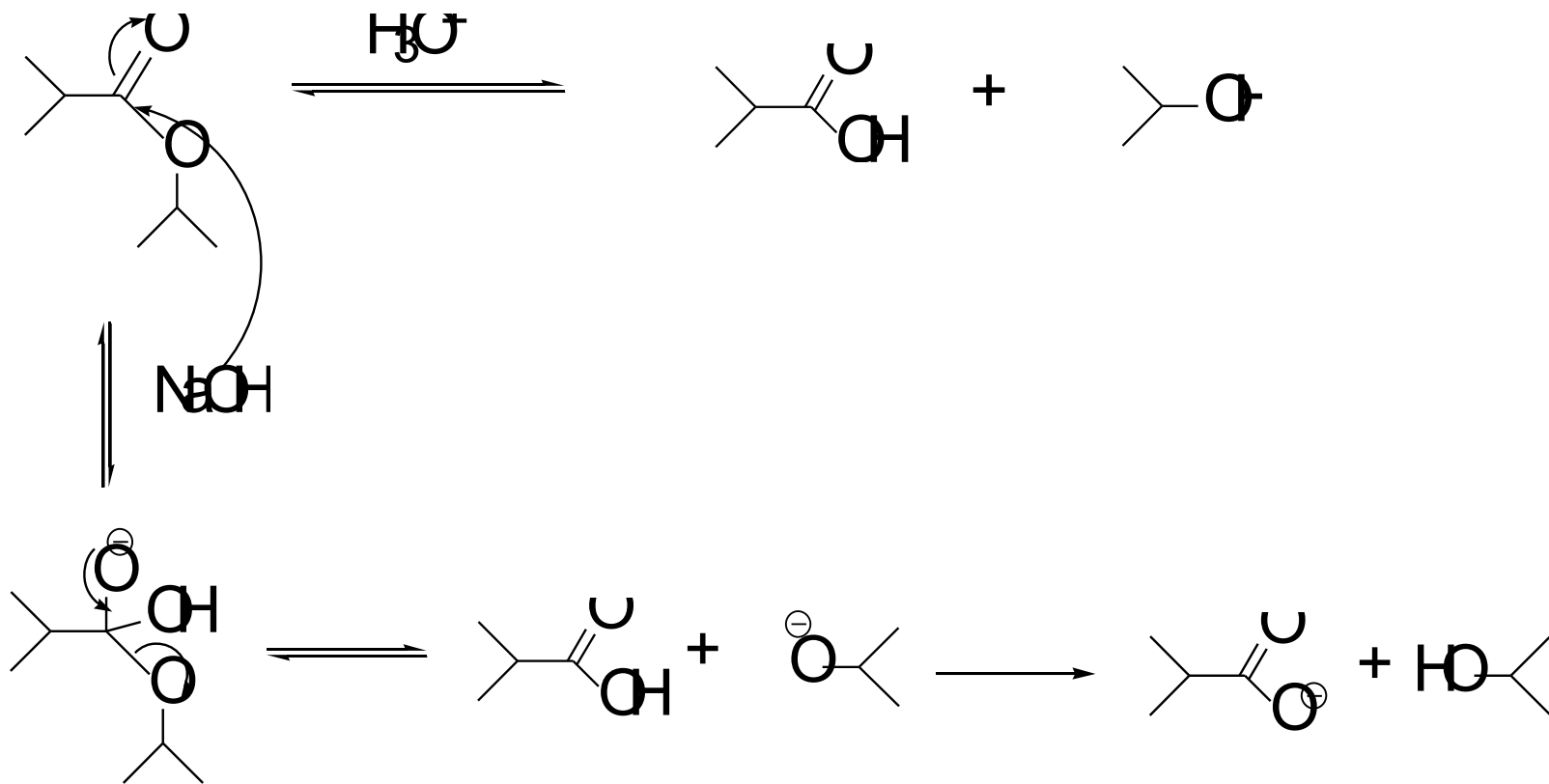


extrémně pomalá, „neprobíhá“
EtOH slabá báze i nukleofil

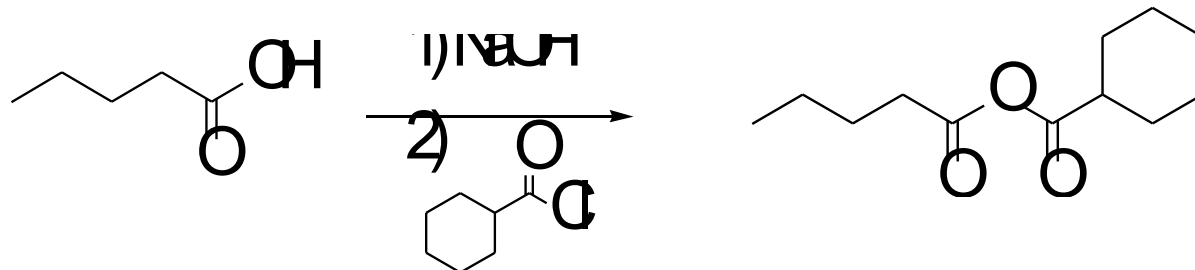
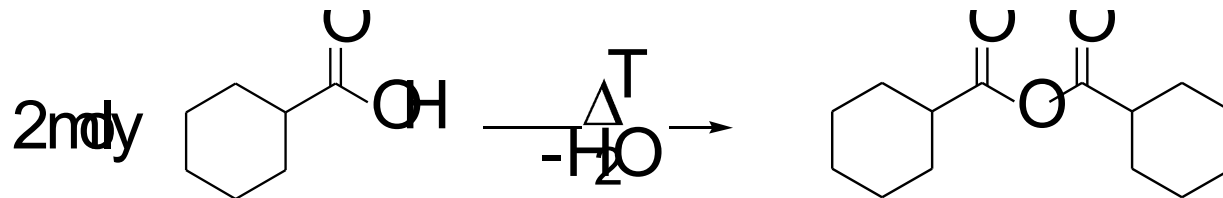
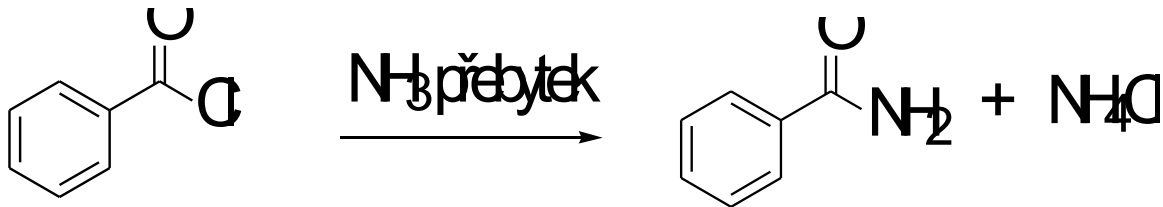
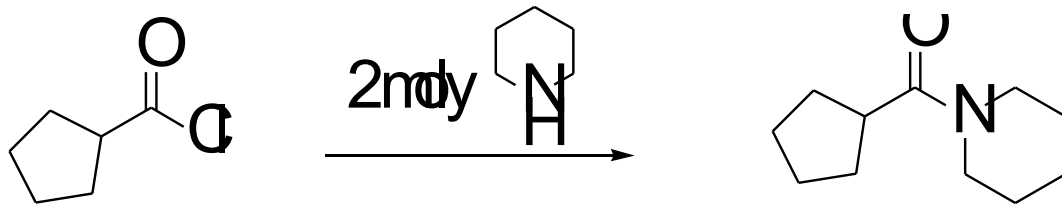
Esterifikace je kyselě katalyzovaná, rovnovážná reakce



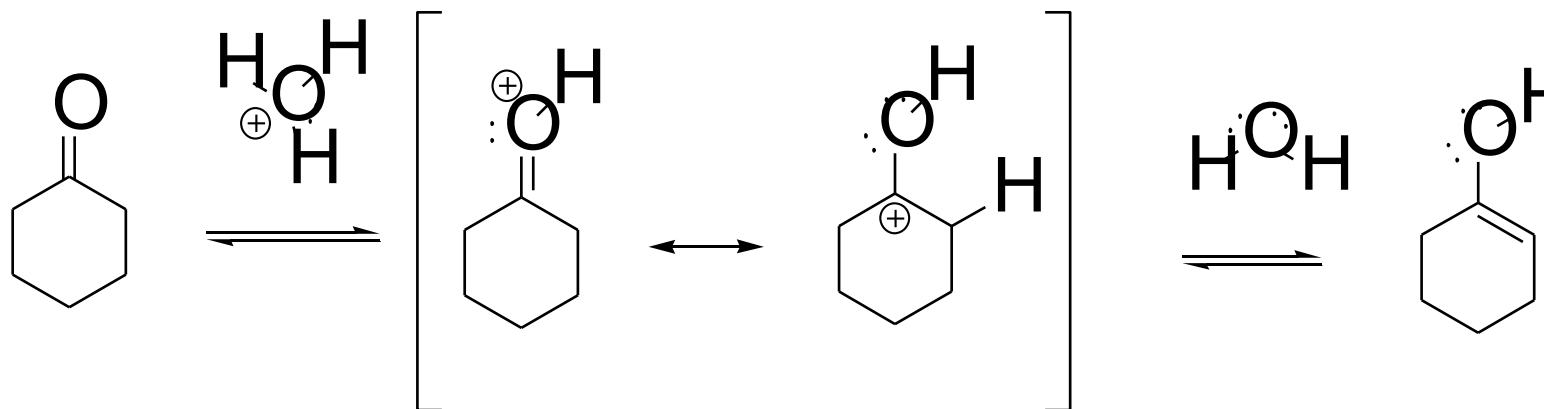
Zmýdelnění



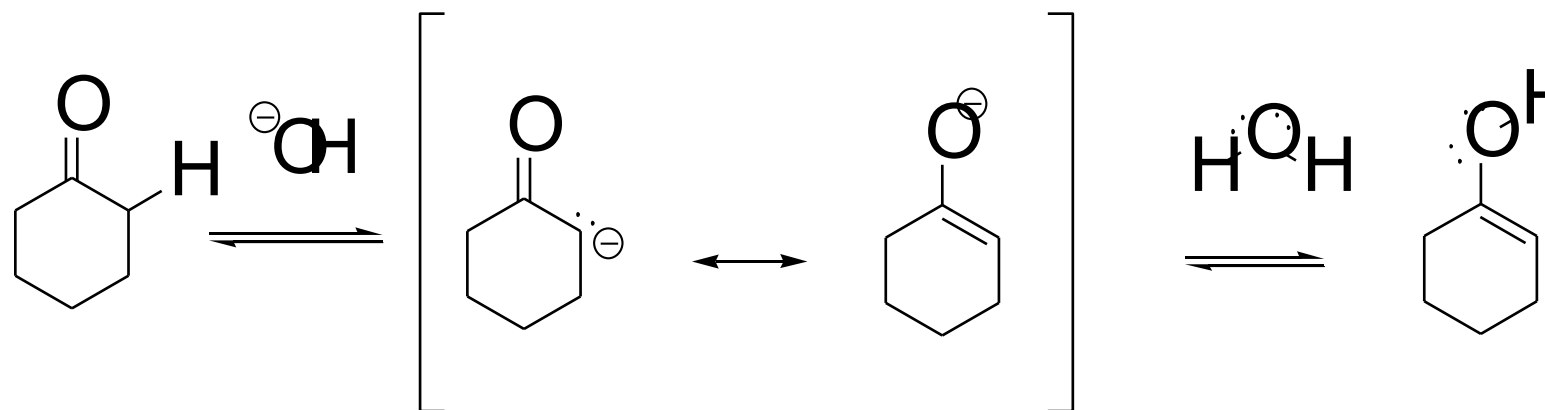
Doplňte produkty reakcí

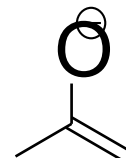
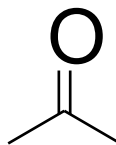
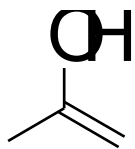


Keto – enol tautomerie kyselá katalýza

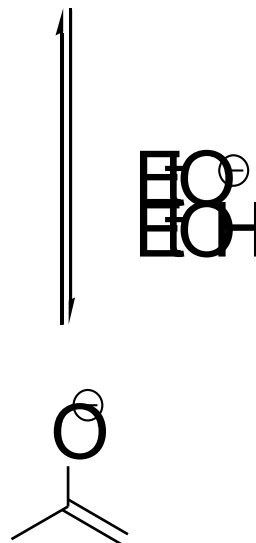


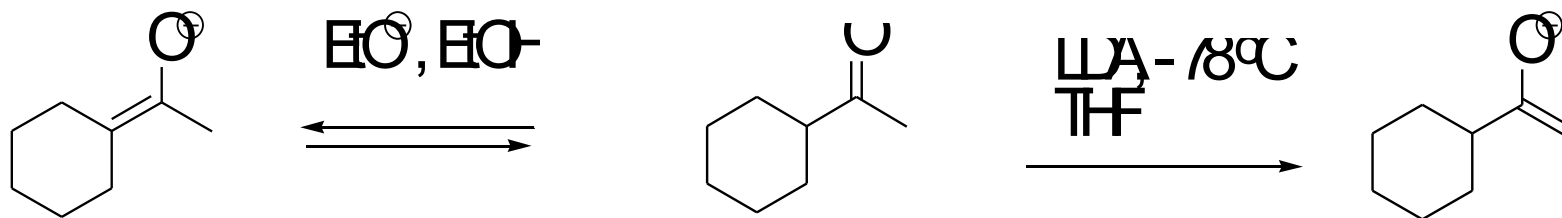
Keto – enol tautomerie bazická katalýza



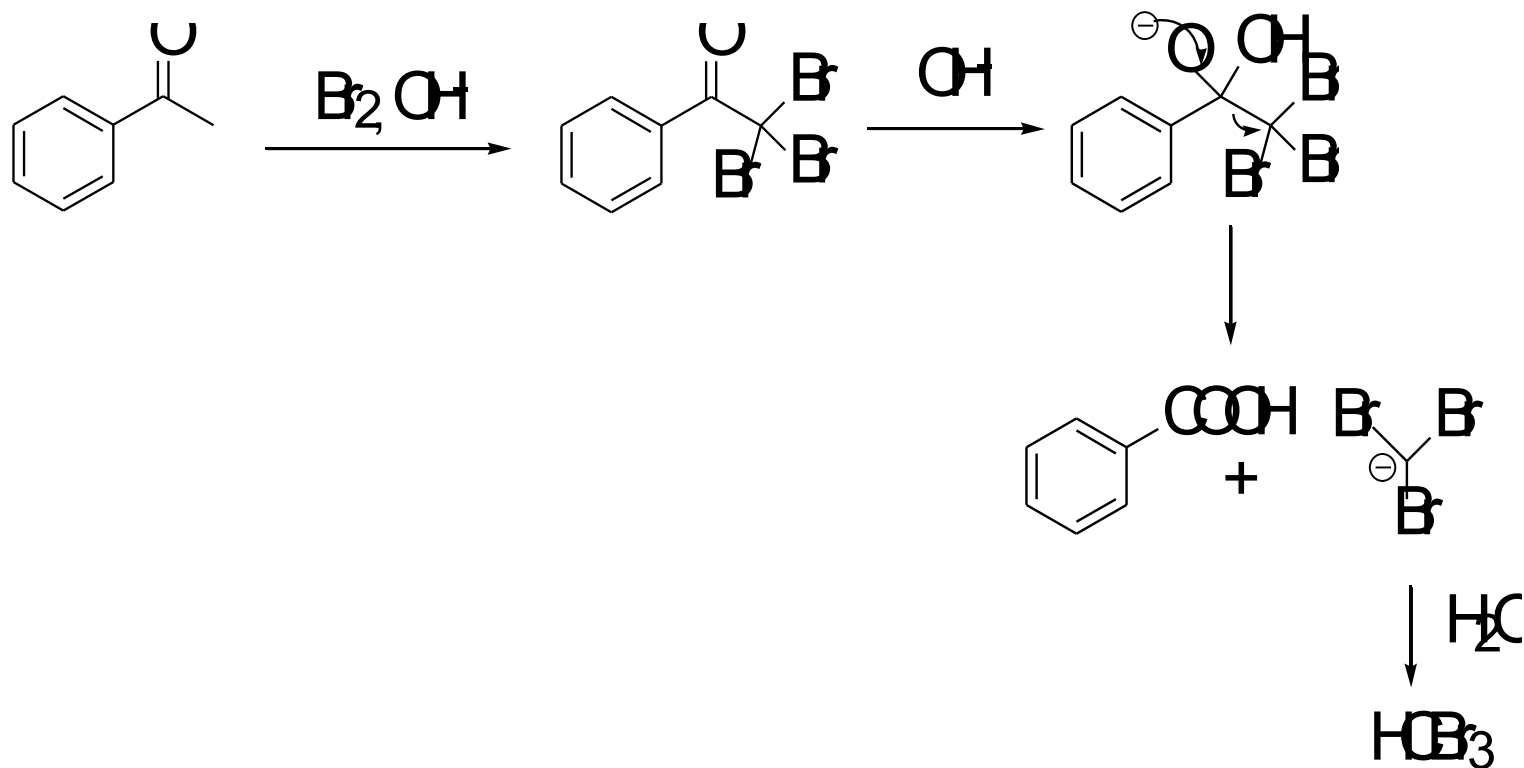
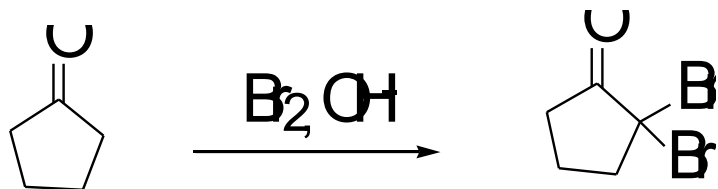


kompletní "nevratná" deprotonace





Doplňte produkty uvedených reakcí



1,4-Adice a 1,2-adice



1,4-ADICE (KONJUGOVANÁ ADICE)

1,2-ADICE

α,β -NENASYCENÁ KARBONYLOVÁ SLOUČENINA

viz studijní materiály !!!

https://is.muni.cz/auth/el/sci/jaro2019/C2022/um/materialy_k_procviceni/8_reakce_aromatickych_sloucenin.pdf

