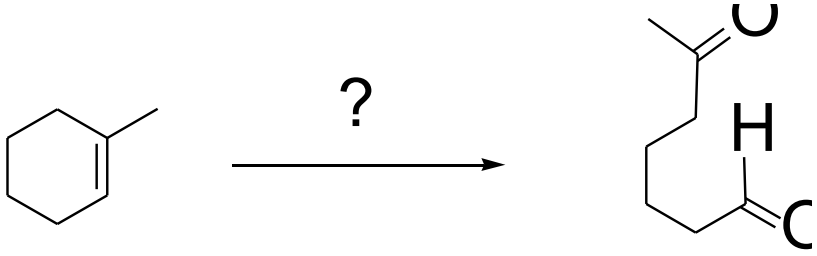
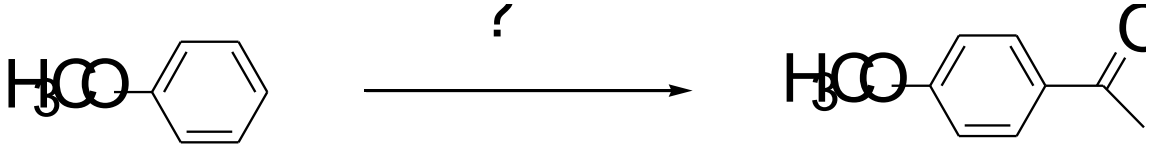
ALDEHYDY, KETONY

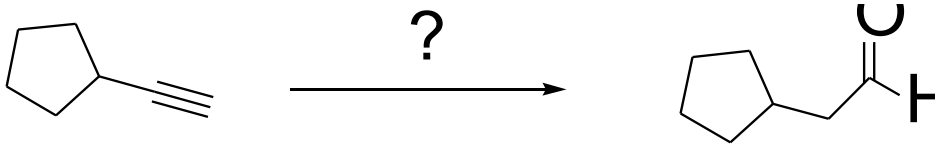
Syntéza aldehydů a ketonů



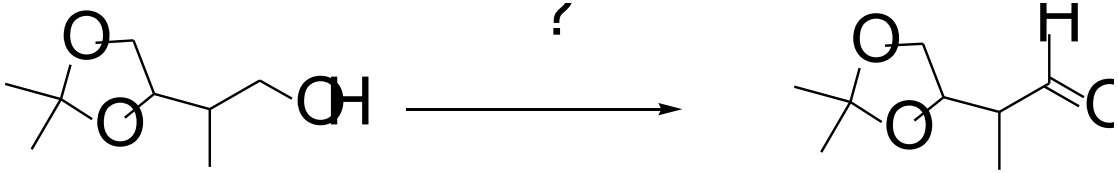
1) O_3
2) Zn, H^+



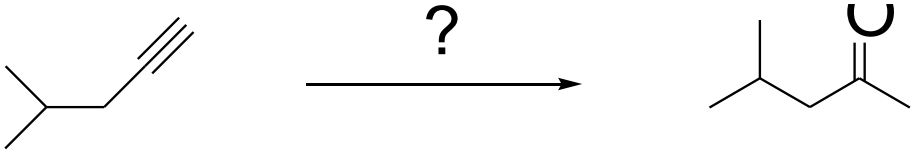
1) $(CH_3CO)_2O, AlCl_3, CS_2$
2) HCl, H_2O



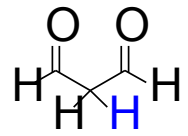
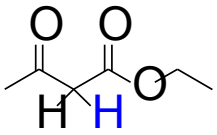
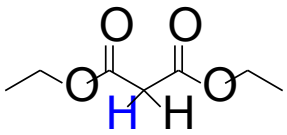
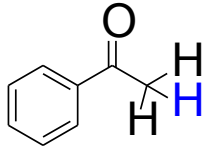
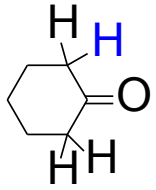
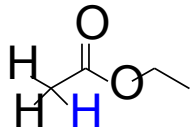
1) BH_3
2) $H_2O_2, NaOH$

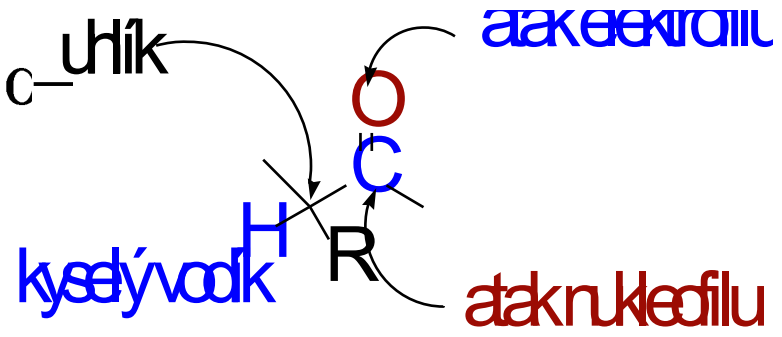


PCC, CH_2Cl_2

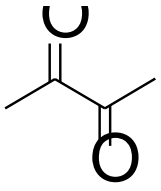


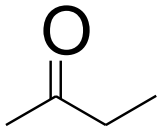
Hg^{2+}, H^+, H_2O

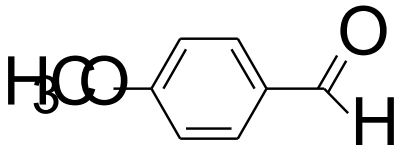
	pK_a
	5,0
	10,7
	12,9
	15,8
	16,7
	24,5

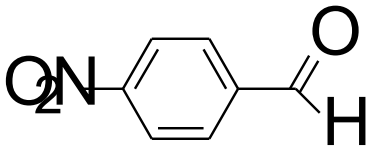


Která ze sloučenin v uvedených dvojicích je reaktivnější při adiční reakci na karbonyl



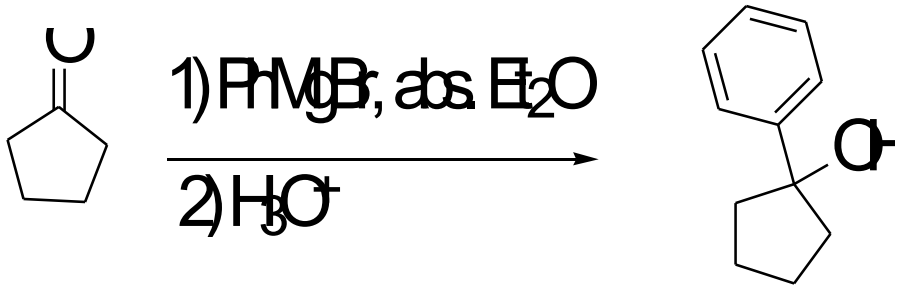


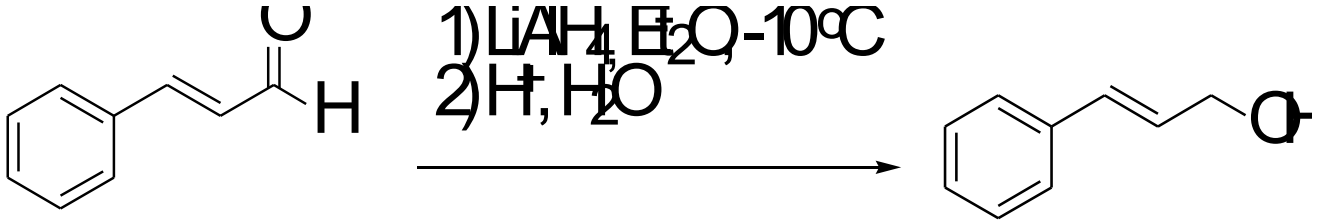


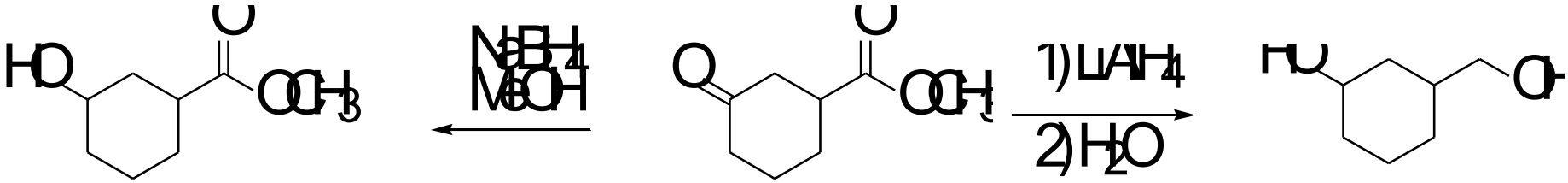


4 typy reakcí karbonylové skupiny:

1) Nukleofilní adice

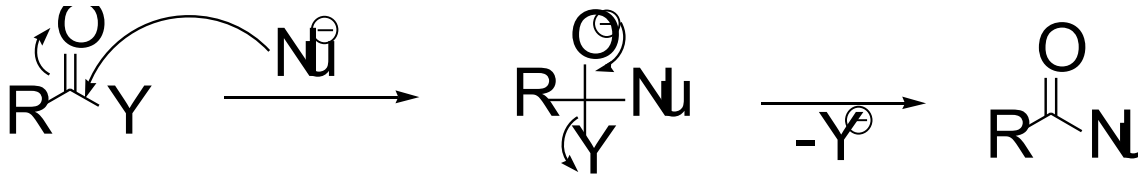




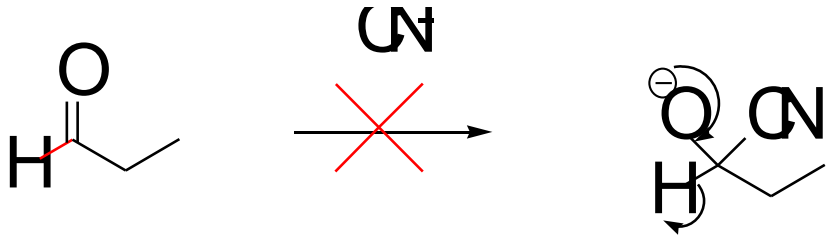


4 typy reakcí karbonylové skupiny:

2) Nukleofilní acylová substituce

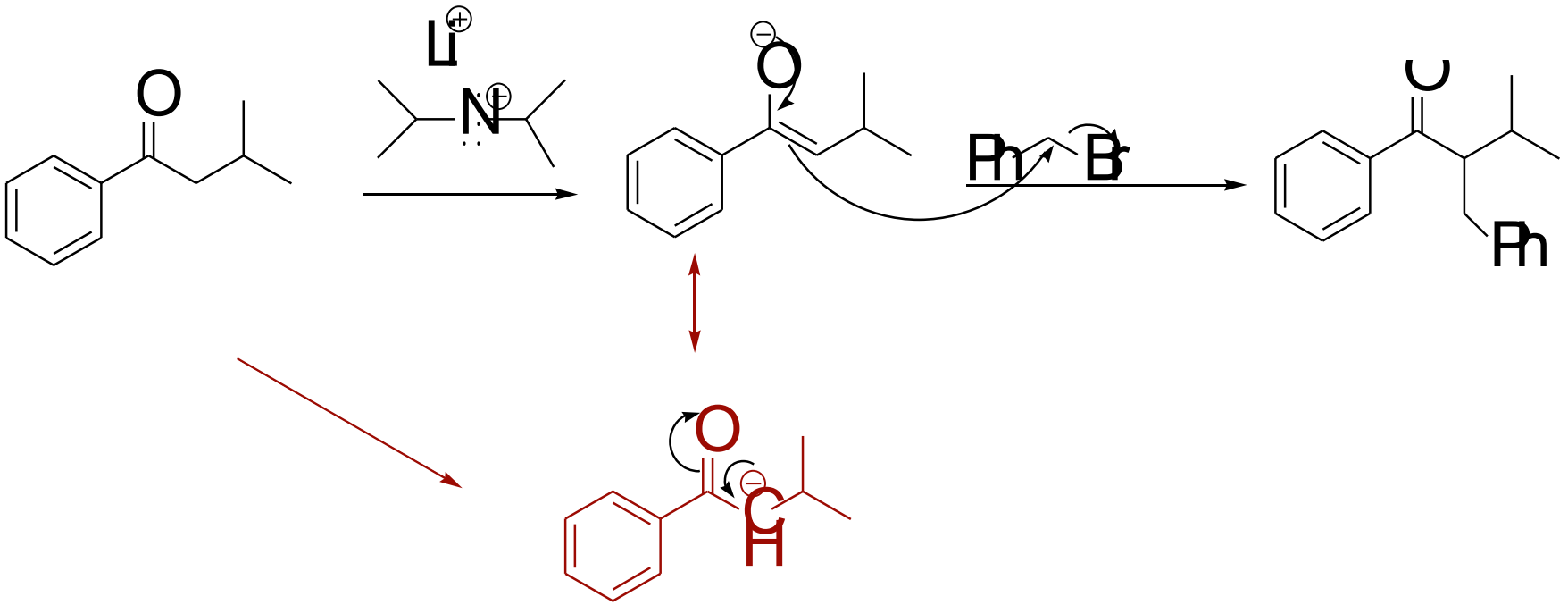


ne u aldehydů a ketonů vysvětlete !!!



4 typy reakcí karbonylové skupiny:

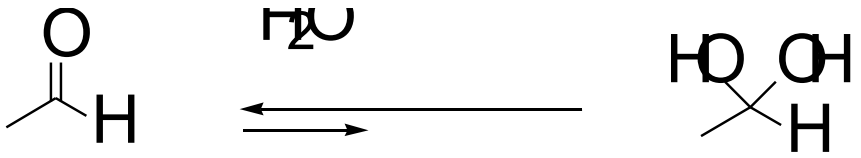
3) Substituce na alfa-uhlíku

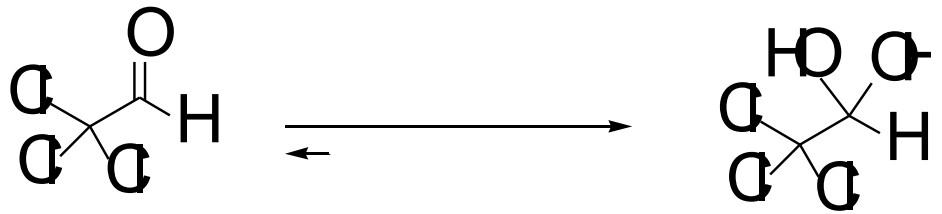


4 typy reakcí karbonylové skupiny:

4) Reakce typu aldolizace – reagují dvě molekuly karbonylové sloučeniny

Tvorba hydrátů

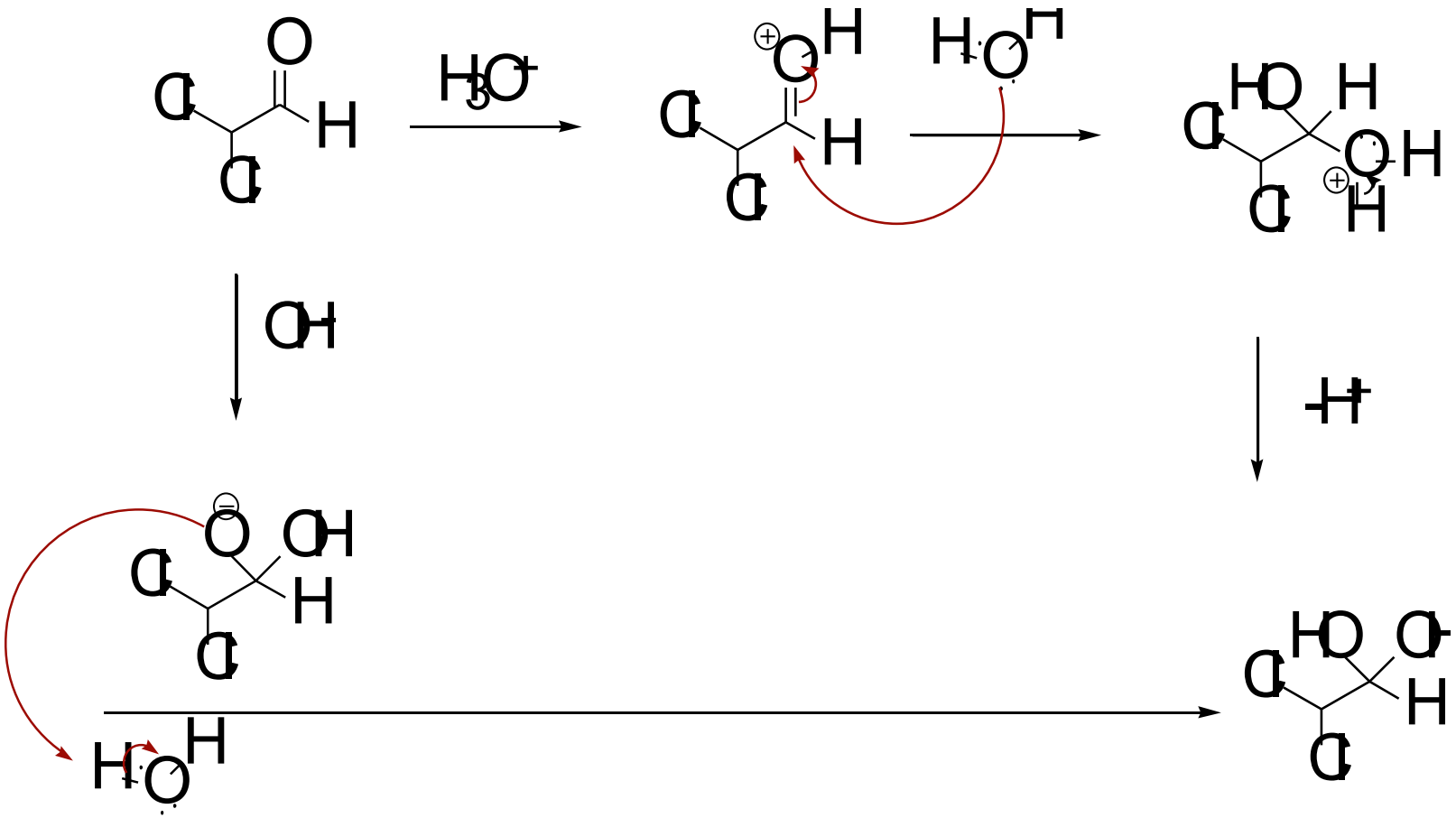




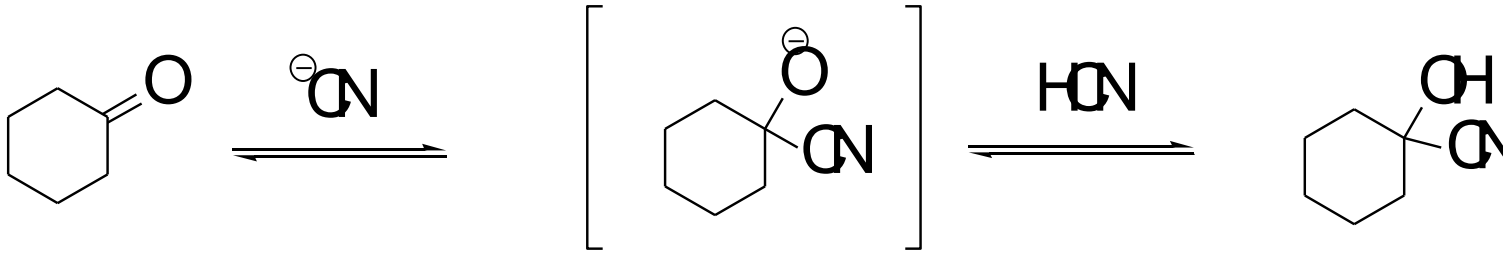
více než 99,9 %

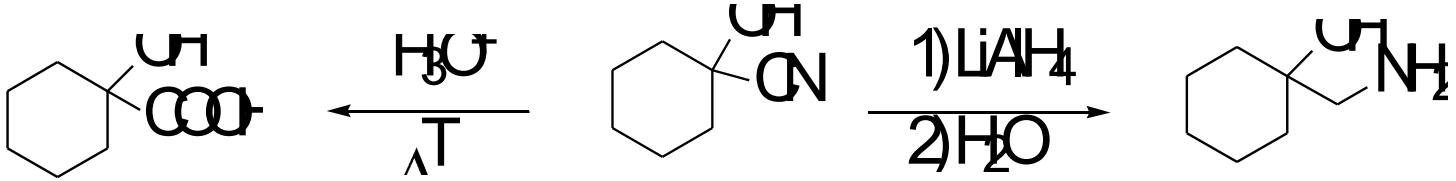
hydratace může být kysele i bazicky katalyzovaná

$pK_a = -8$

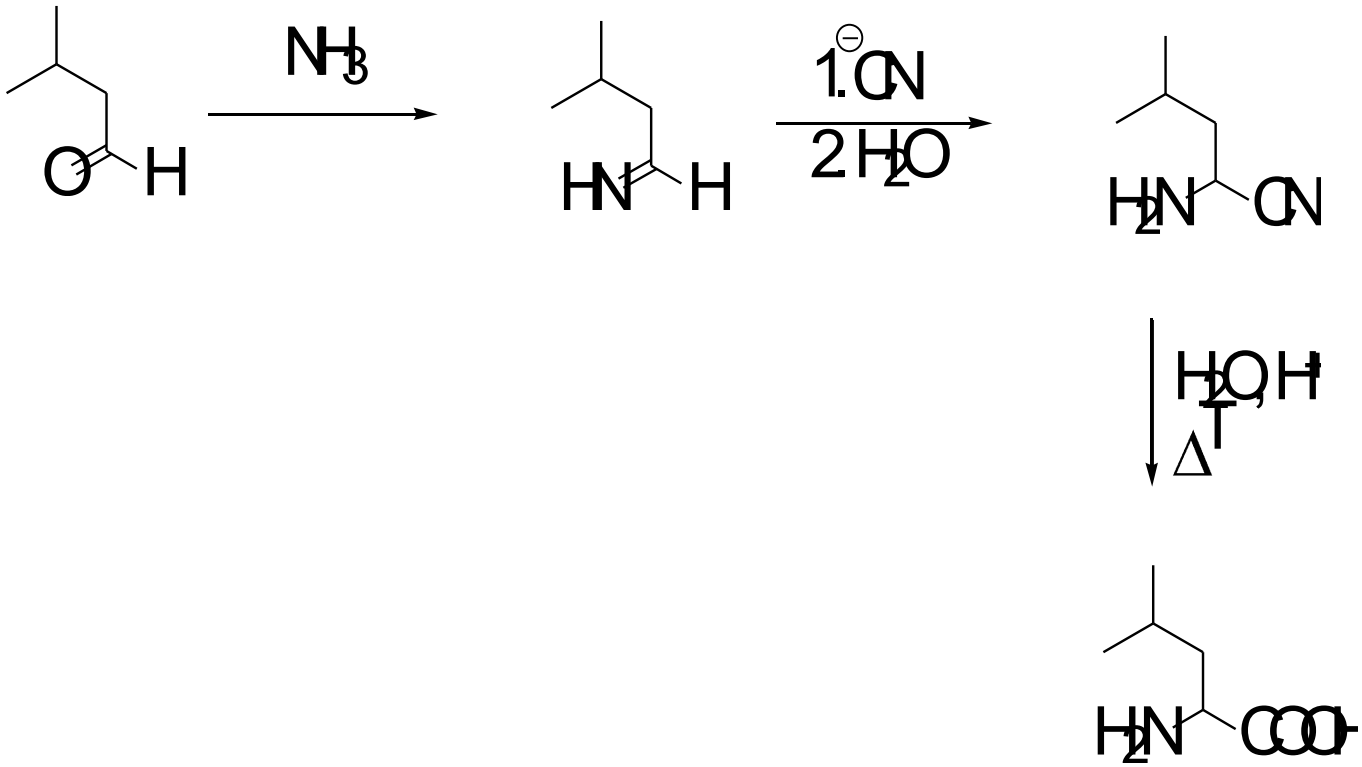


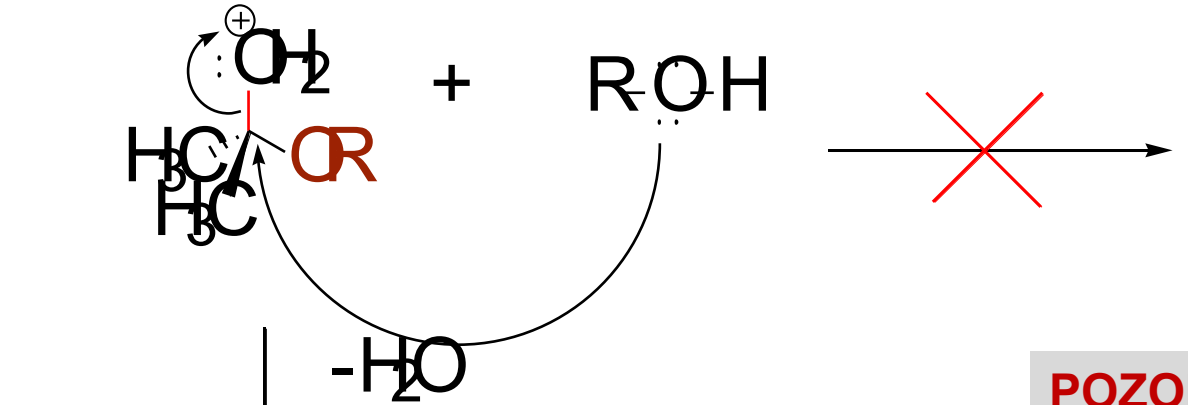
Tvorba kyanhydrinů

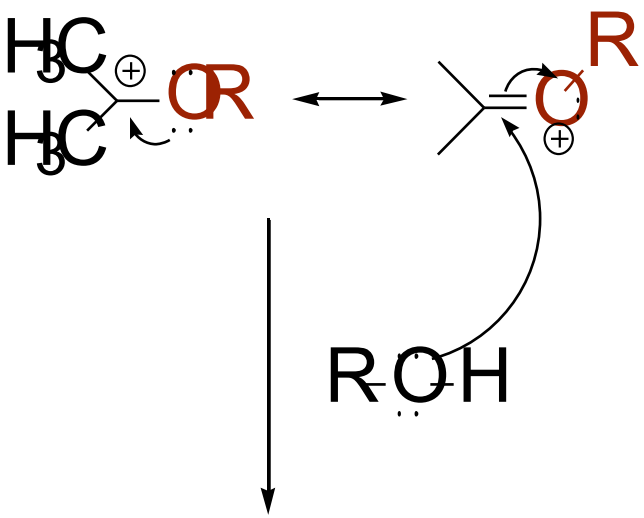


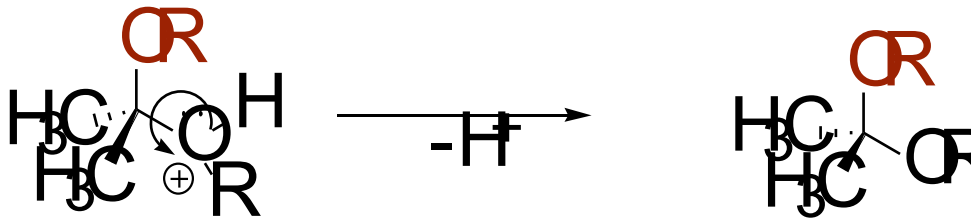


Laboratorní syntéza aminokyselin



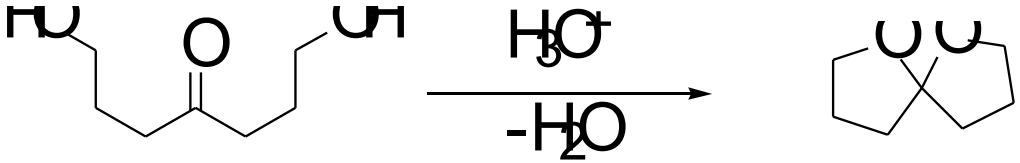


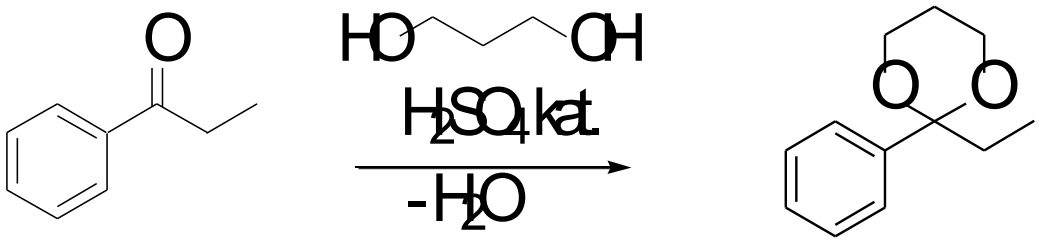


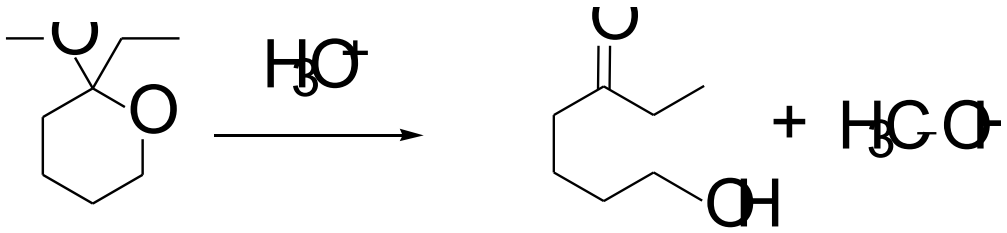


POZOR
při psaní mechanismu

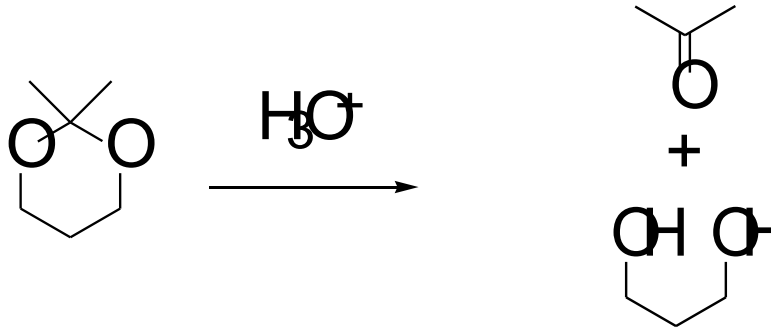
Doplňte produkty reakcí

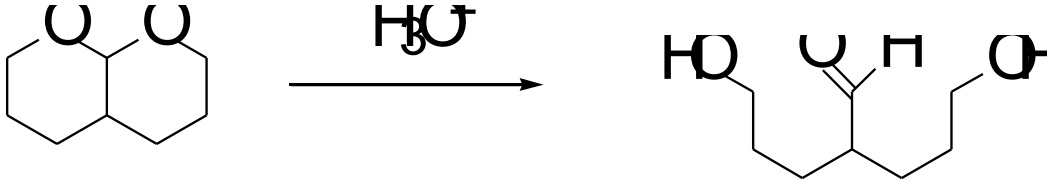


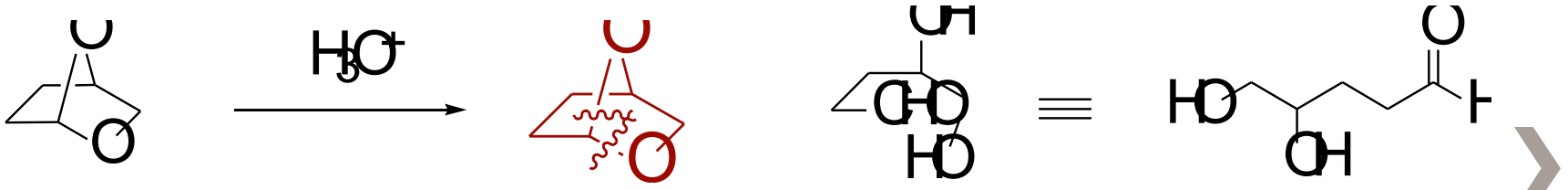




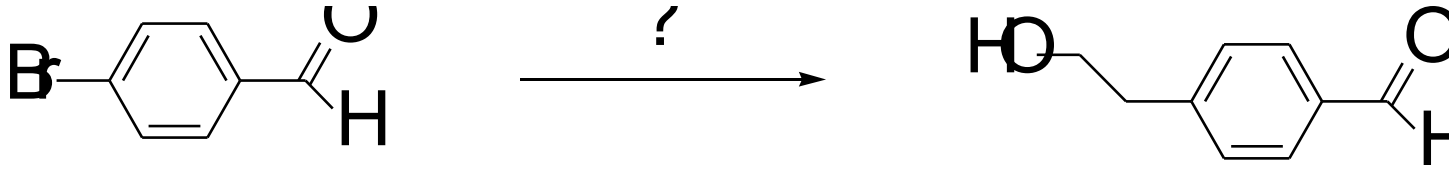
Doplňte produkty reakcí



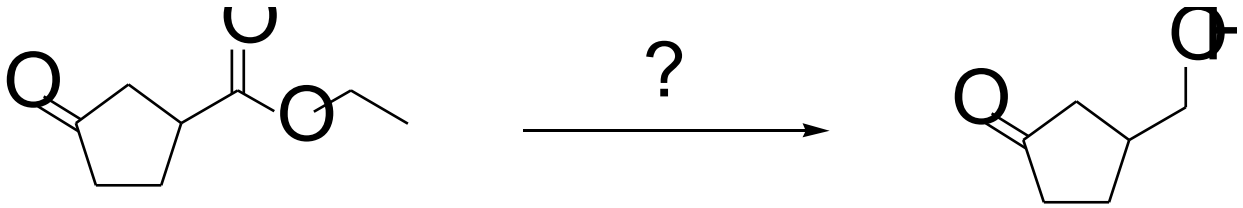




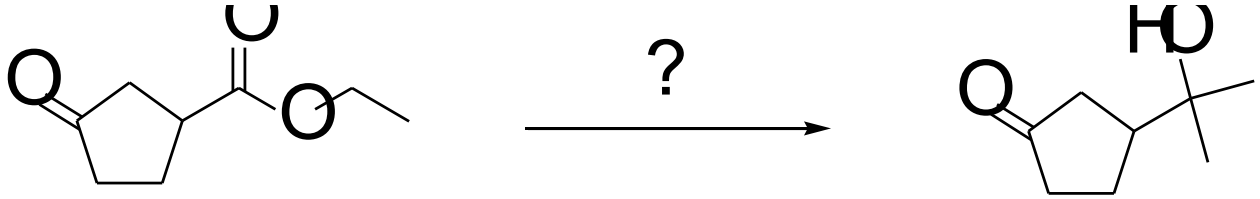
Acetal jako chránící skupina



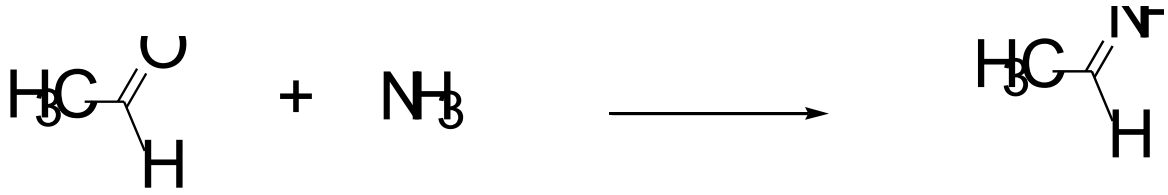
Acetal jako chránící skupina

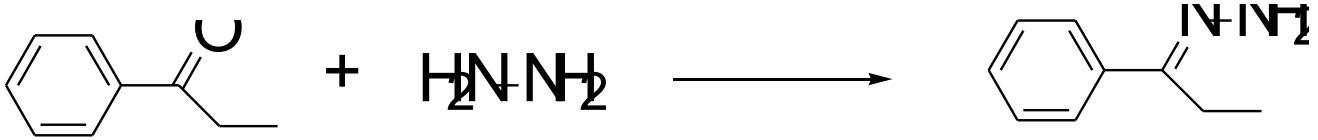


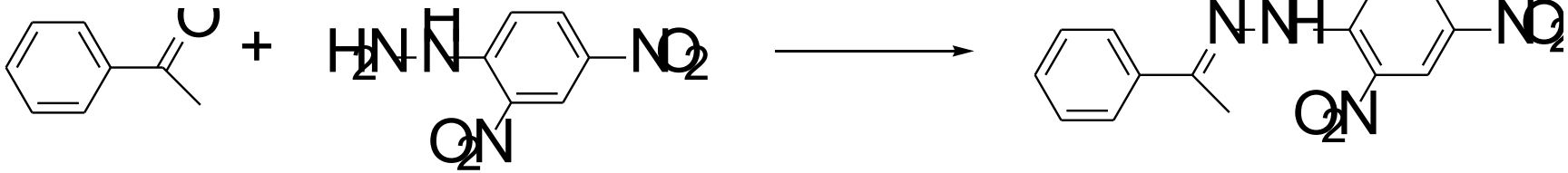
Acetal jako chránící skupina

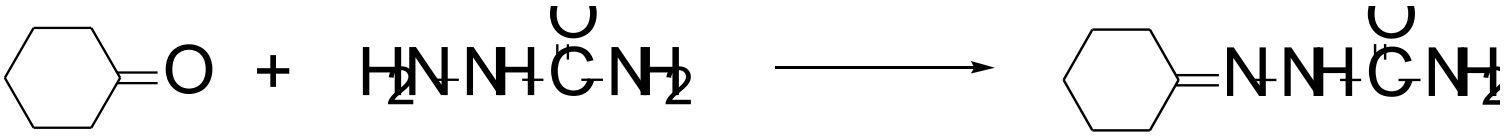


Reakce s deriváty amoniaku



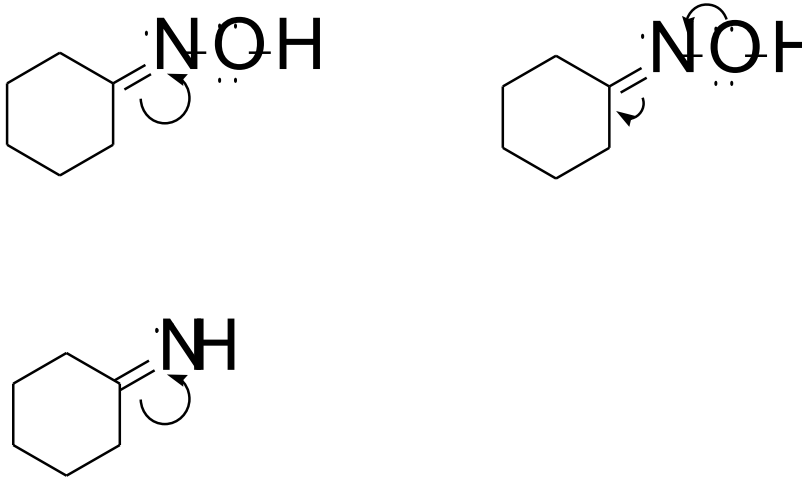






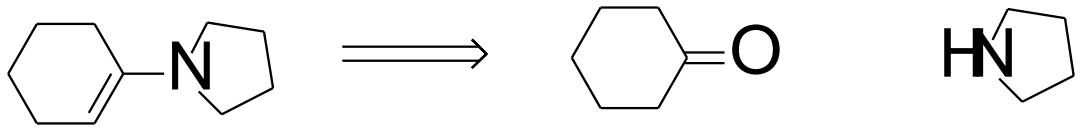
Reakce s deriváty amoniaku

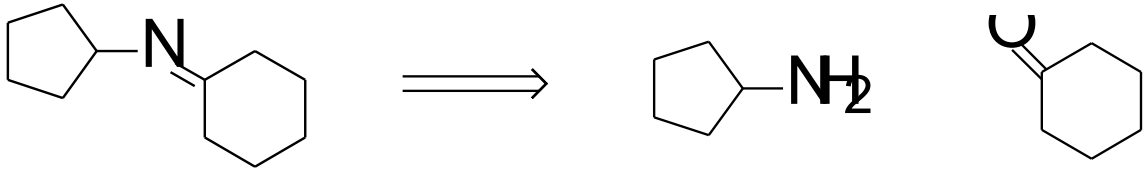
U oximů, hydrazonů neběží zpětná hydrolýza tak snadno jako u iminů, zdůvodněte

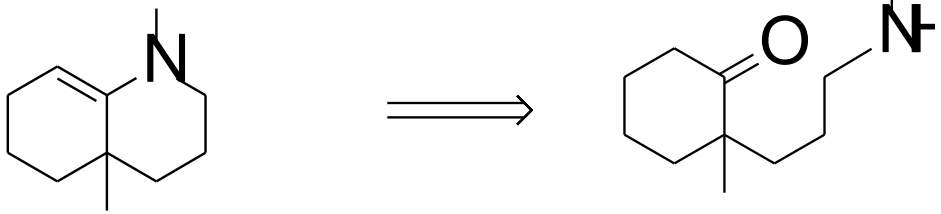


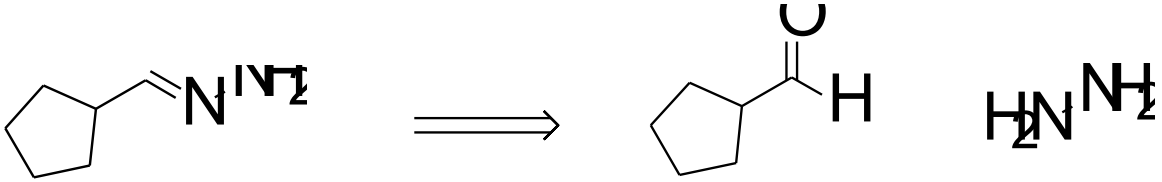
δ+ na uhlíku oximu je menší než u iminu

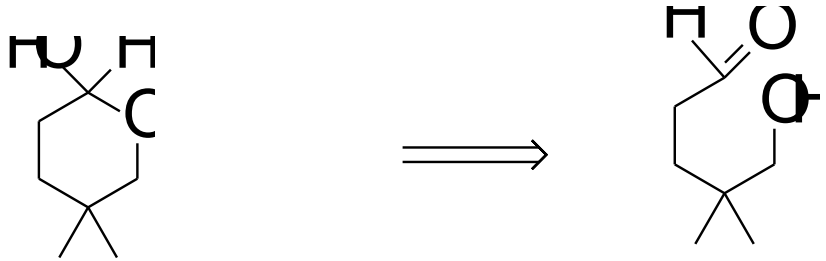
Identifikujte reagenty, které poskytly následující sloučeniny



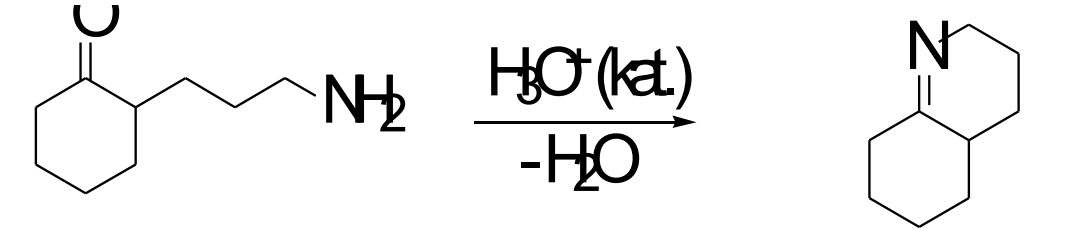


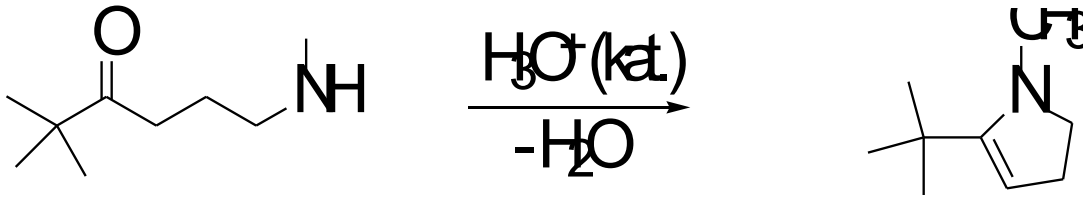




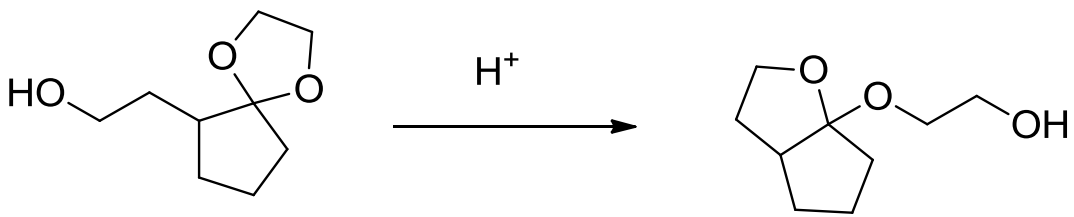


Napište podrobný mechanismus uvedených reakcí

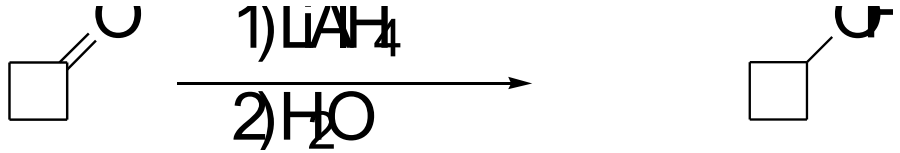


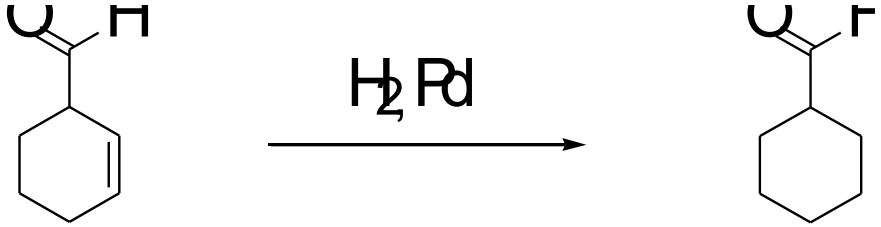


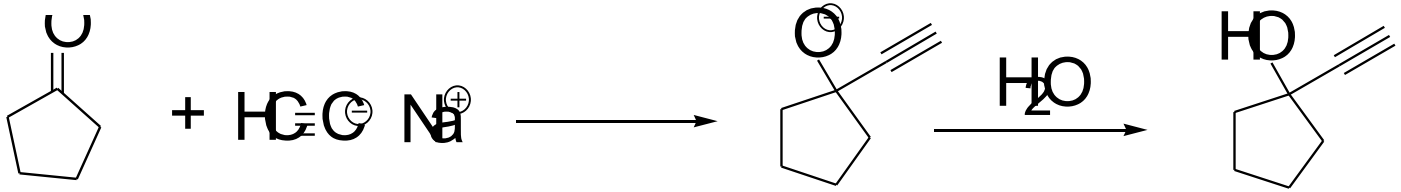
Napište produkt a mechanismus uvedené kysele katalyzované přeměny



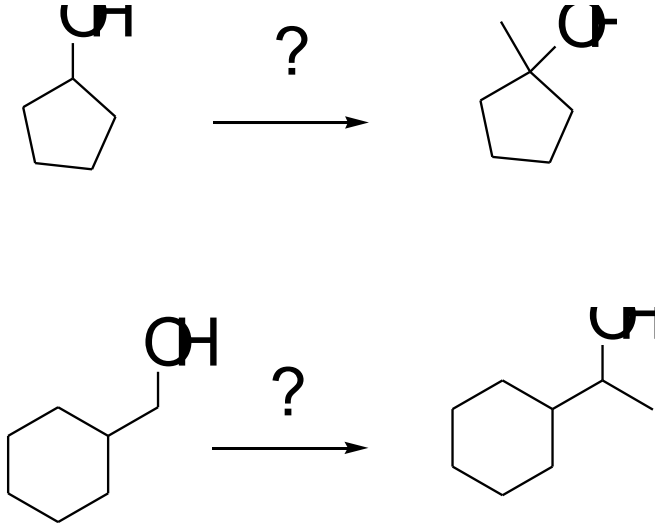
Doplňte produkty reakcí



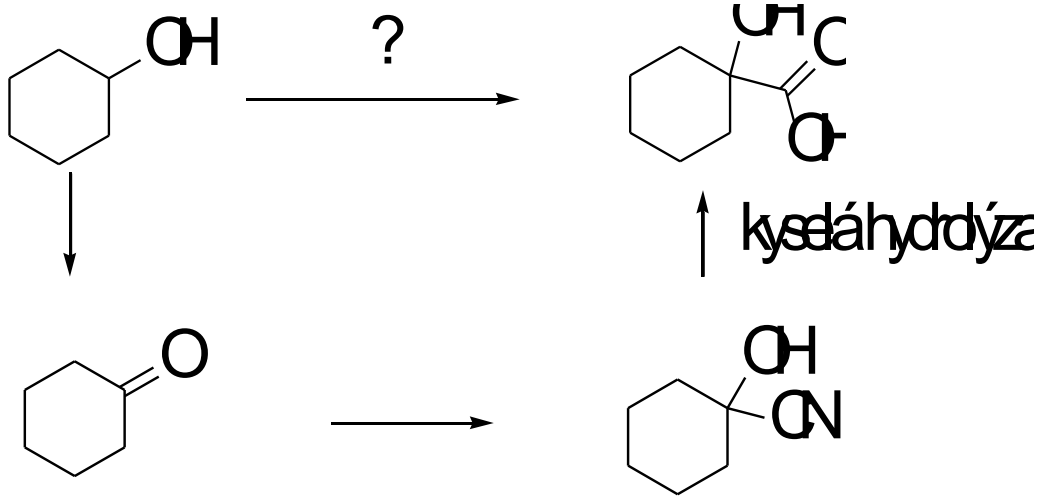


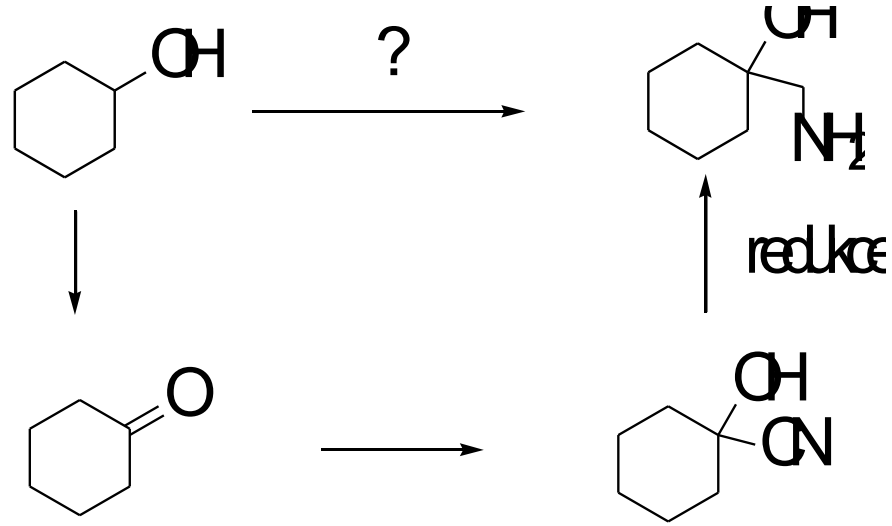


Identifikujte reagenty, kterými byste uskutečnili následující přeměny

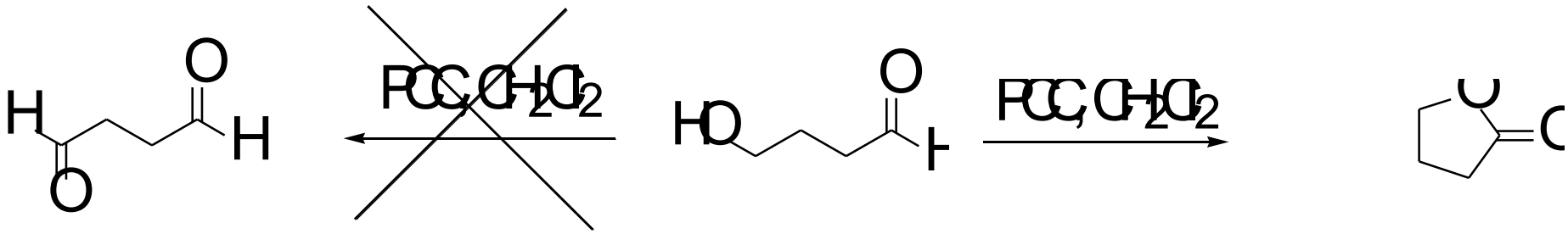


Identifikujte reagenty, kterými byste uskutečnili následující přeměny

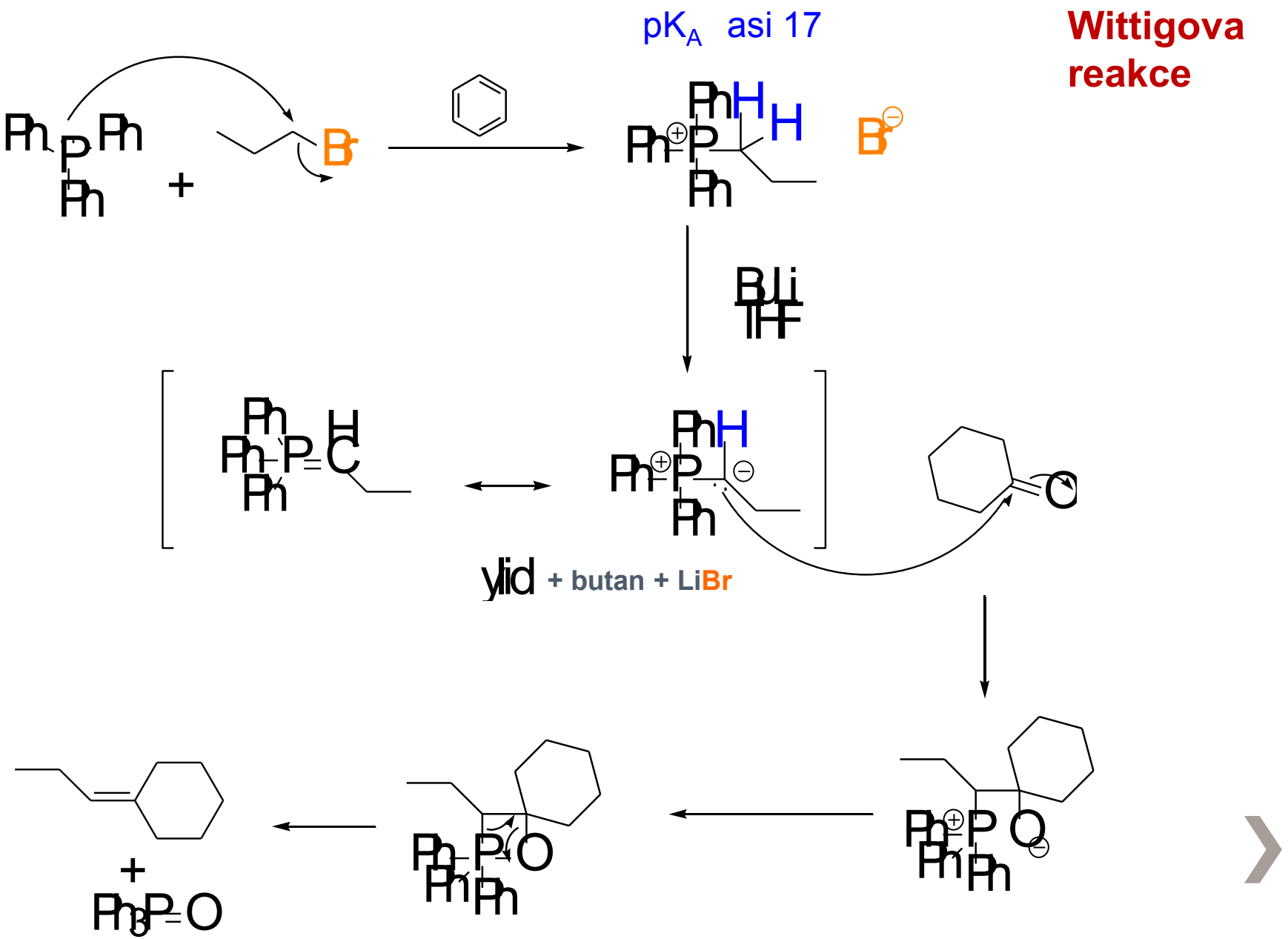




Vysvětlete, proč nedochází k oxidaci alkoholu na aldehyd



Wittigova reakce



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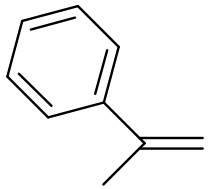
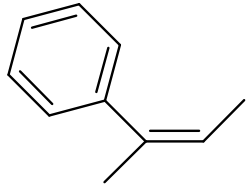
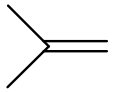
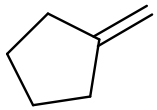
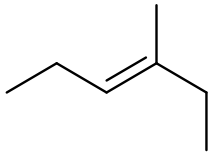
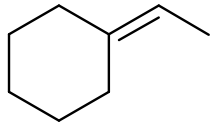


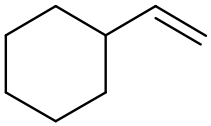


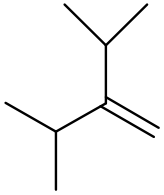


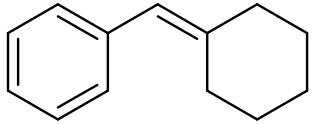




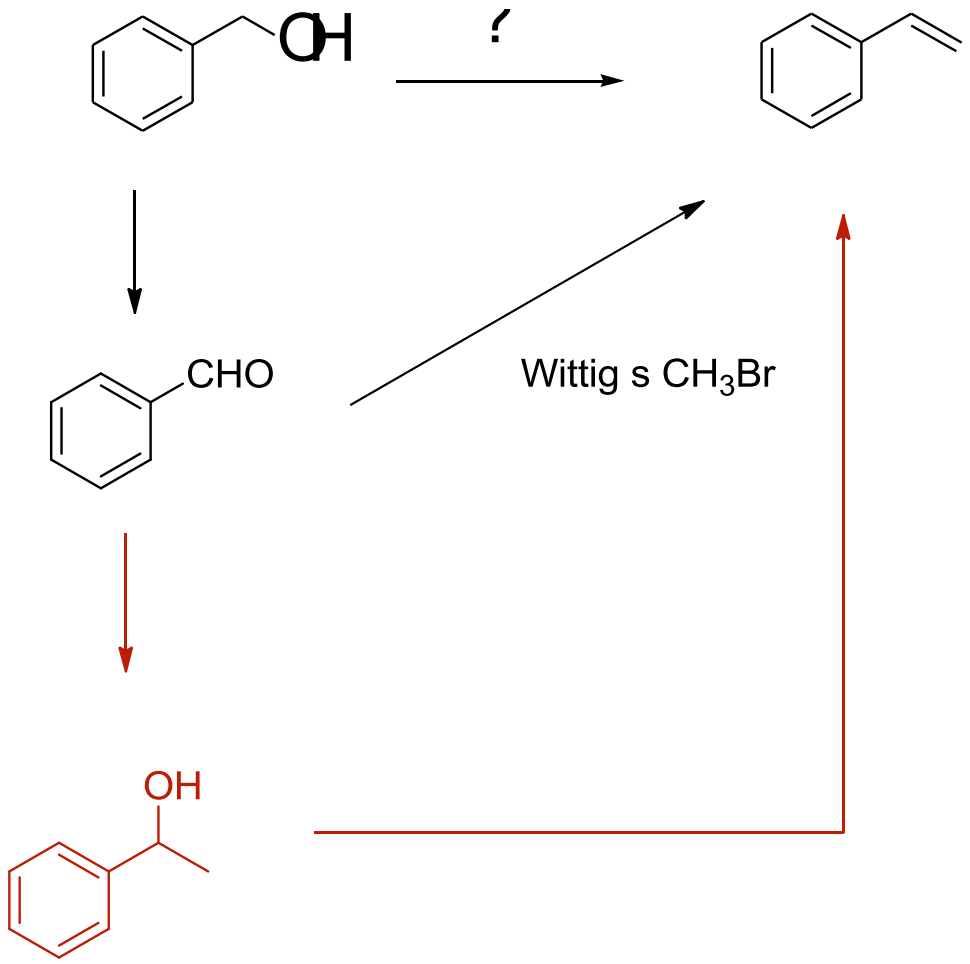




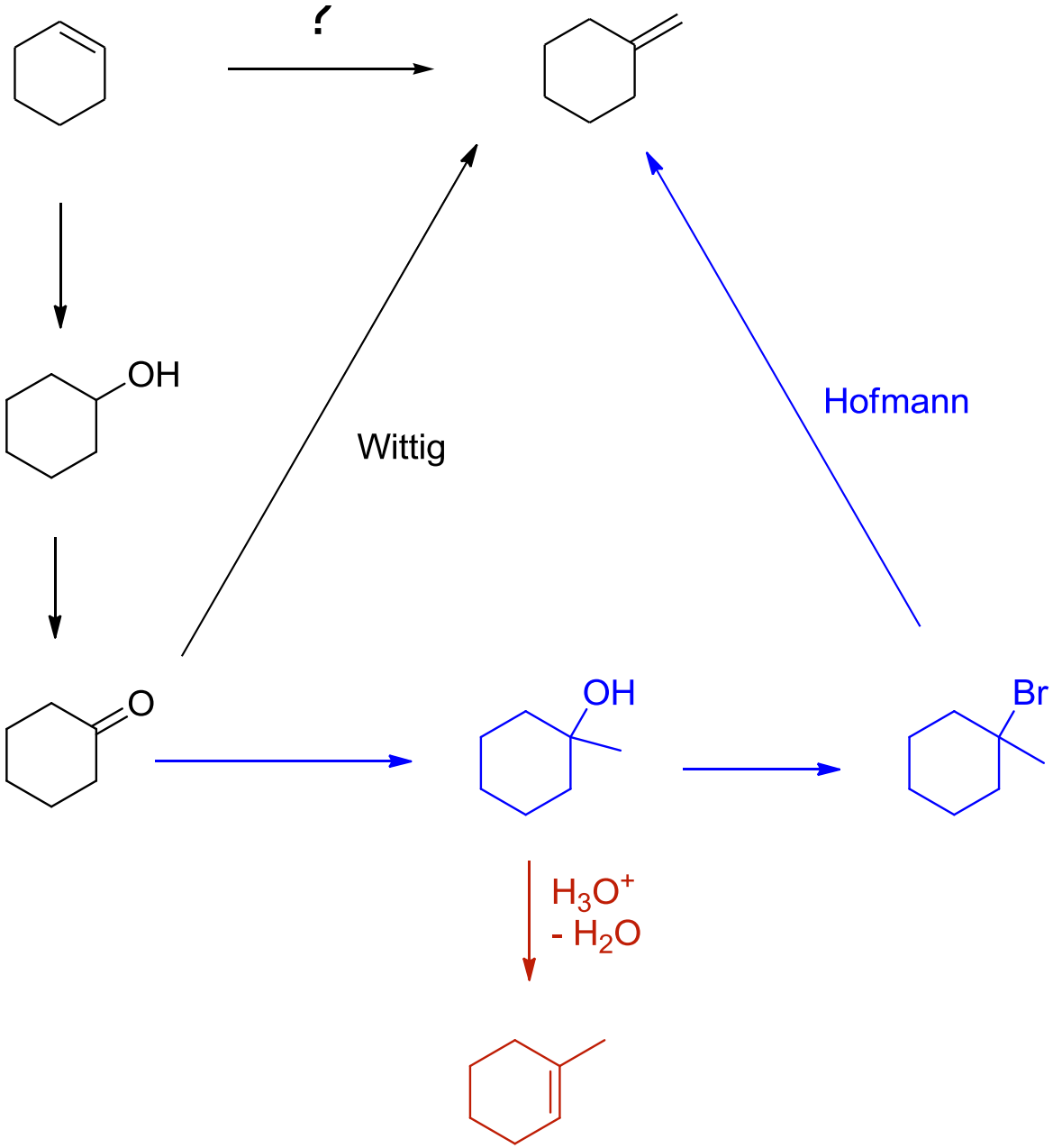




Identifikujte reagenty, kterými byste uskutečnili následující přeměny



Identifikujte reagenty, kterými byste uskutečnili následující přeměny



Navrhněte mechanismus následující přeměny