

AMINY



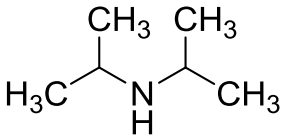
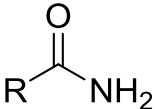
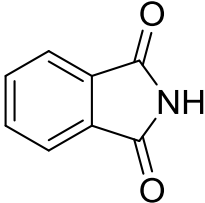
NH_3	$\text{H}_3\text{C}-\text{NH}_2$	$\begin{array}{c} \text{H}_3\text{C} \\ \diagdown \\ \text{NH} \\ \diagup \\ \text{H}_3\text{C} \end{array}$	$\begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C}-\text{N} \\ \\ \text{CH}_3 \end{array}$
NH_4^+	$\text{H}_3\text{C}-\text{NH}_3^+$	$\begin{array}{c} \text{H}_3\text{C} \\ \diagdown \\ \text{NH}_2^+ \\ \diagup \\ \text{H}_3\text{C} \end{array}$	$\begin{array}{c} \text{CH}_3 \\ \\ \text{H}_2\text{C}-\text{N}^+-\text{H} \\ \\ \text{CH}_3 \end{array}$
pK_a konjugované kyseliny			
9,26	10,64	10,72	9,70

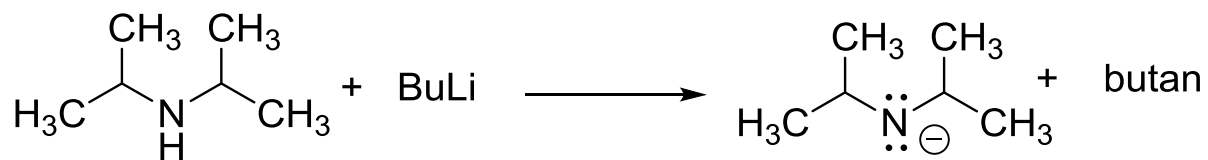
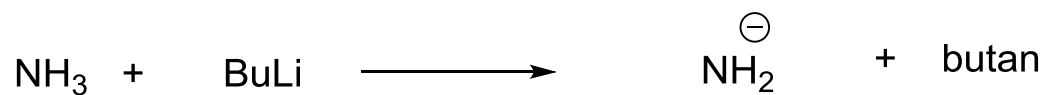


růst bazicity

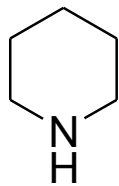


pK_a

NH_3			
33	36	17	8,3

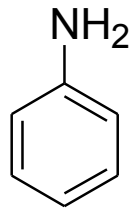


Seřad'te podle klesající bazicity



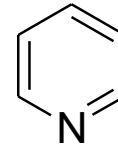
piperidin

1



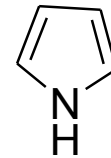
anilin

2



pyridin

3

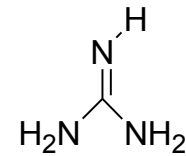
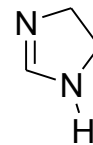
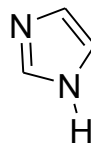
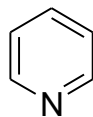
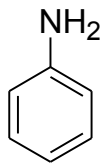
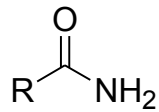


pyrrol

4

1 > 3 > 2 > 4





pK_{AH}

0 - (-1)

4,6

5,2

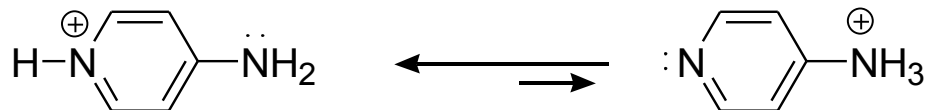
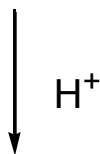
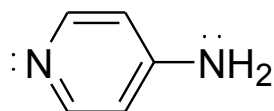
7,1

11

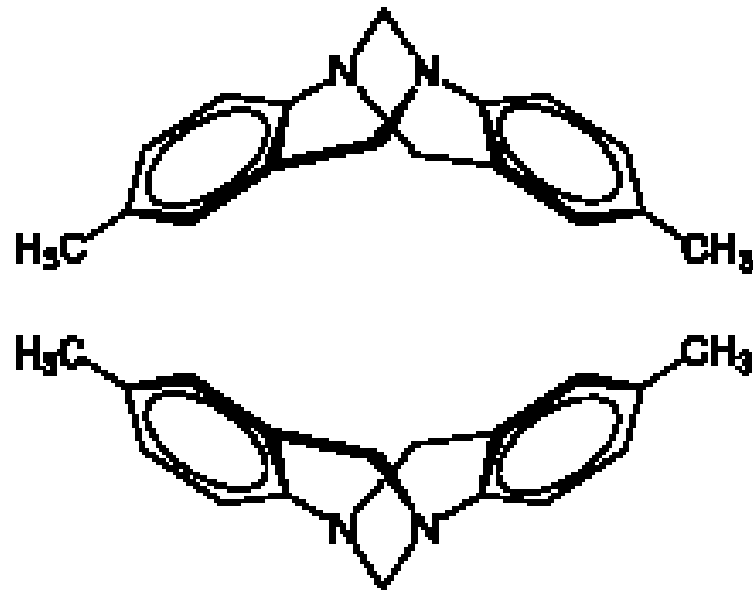
13,6

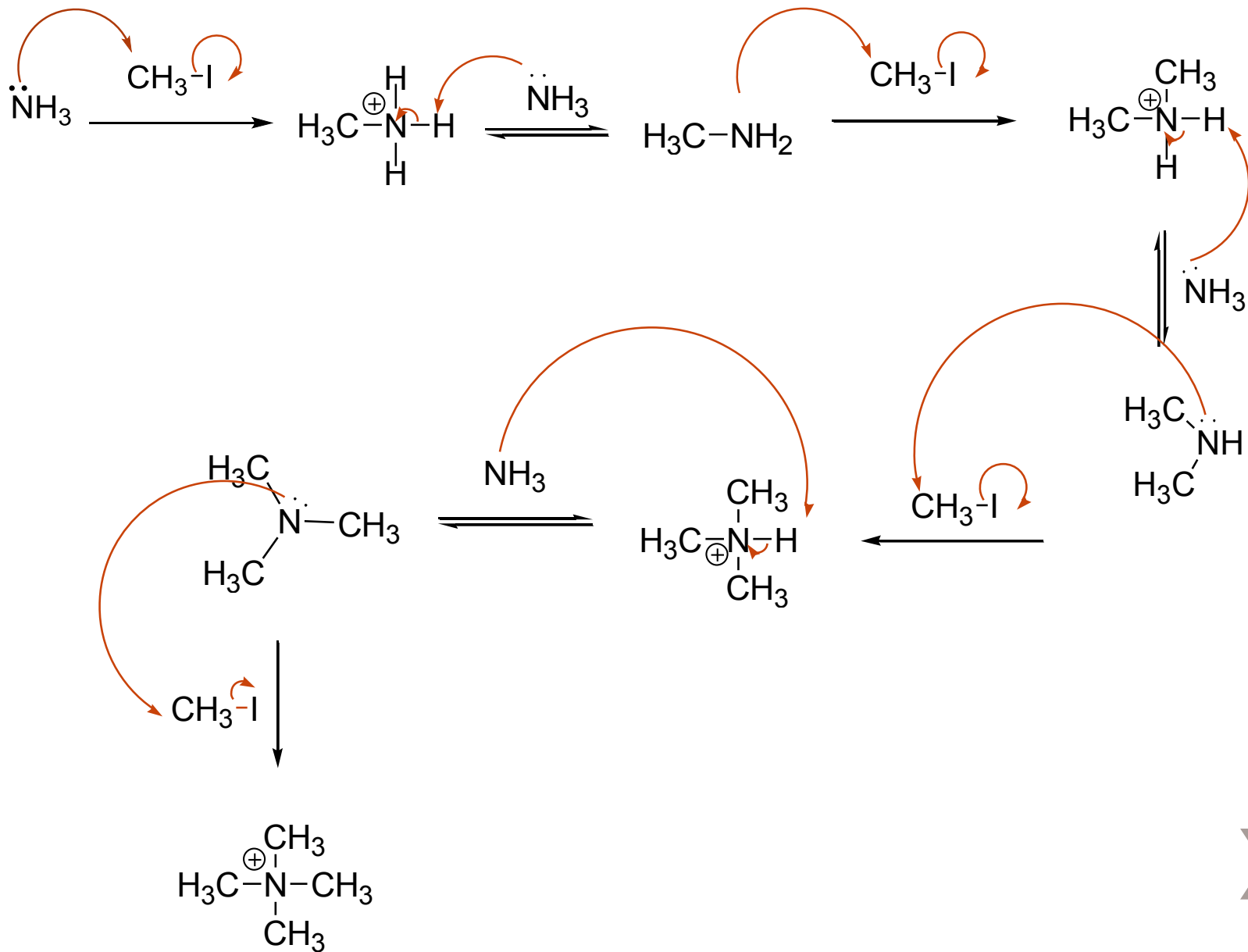


Rozhodněte, který dusík bude přednostně protonován

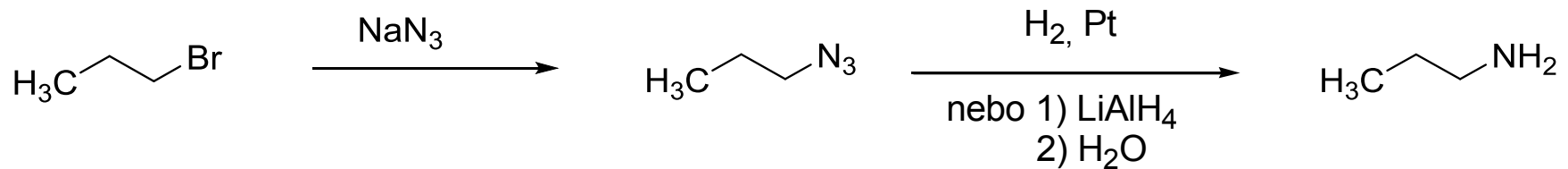
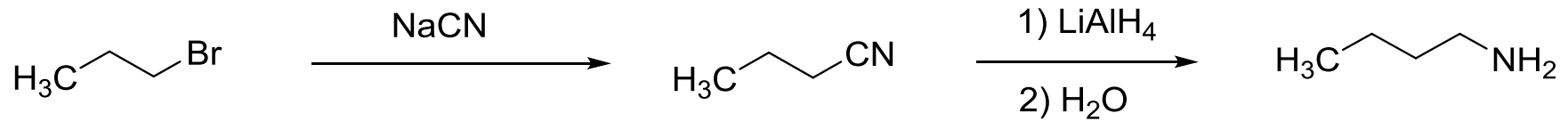


Trögerova báze

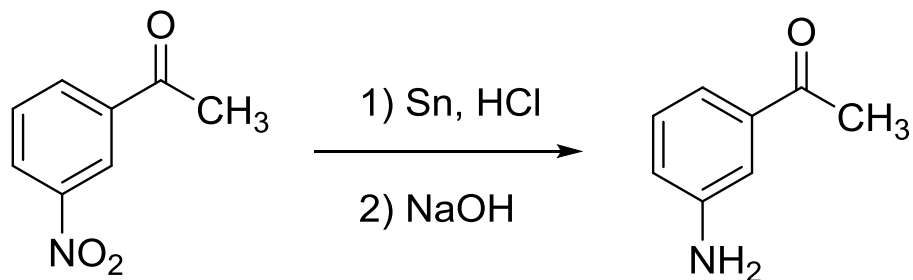
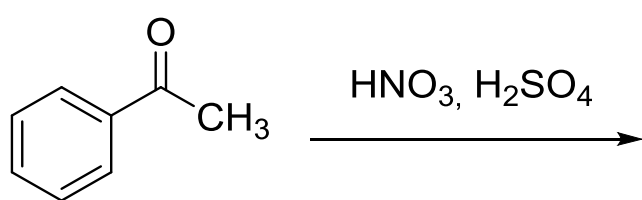
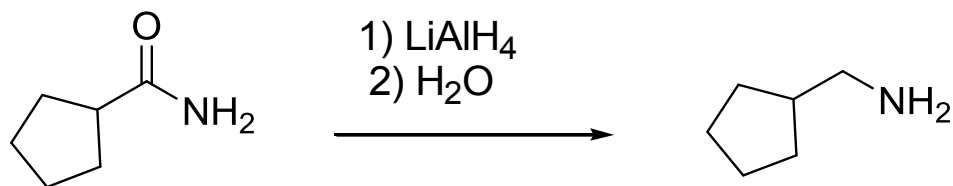
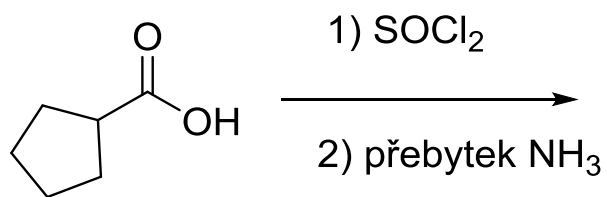




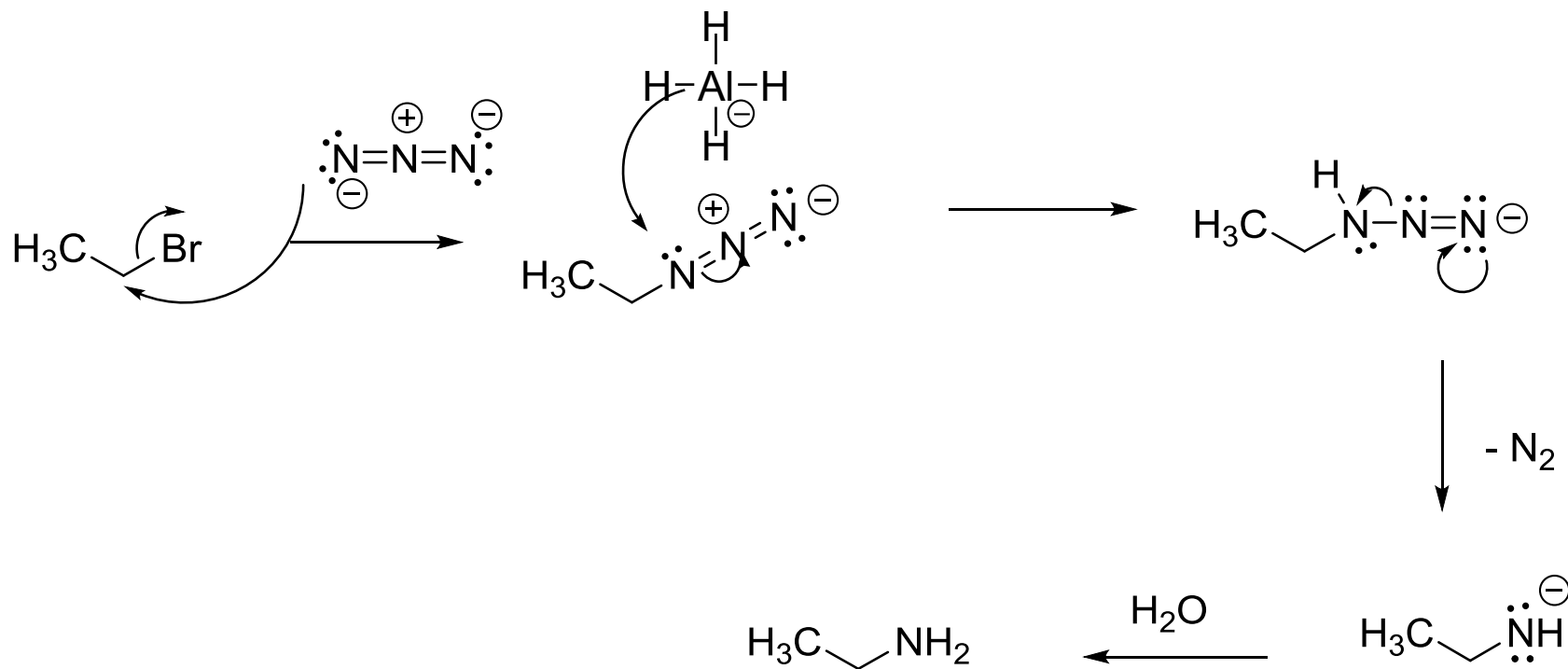
Doplňte hlavní produkty uvedených reakcí



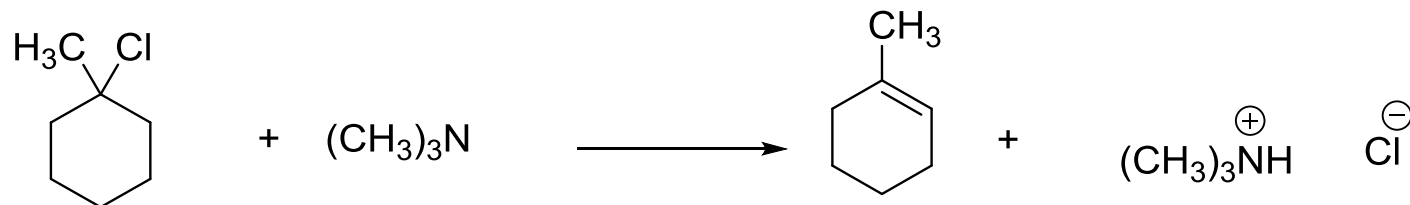
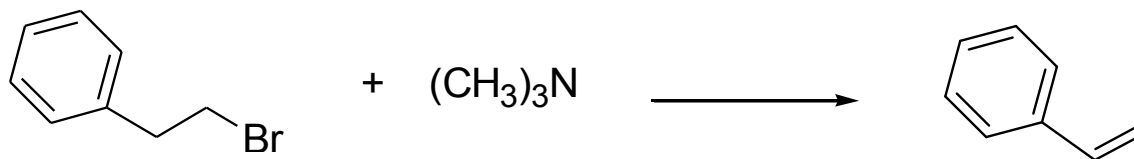
Doplňte hlavní produkty uvedených reakcí



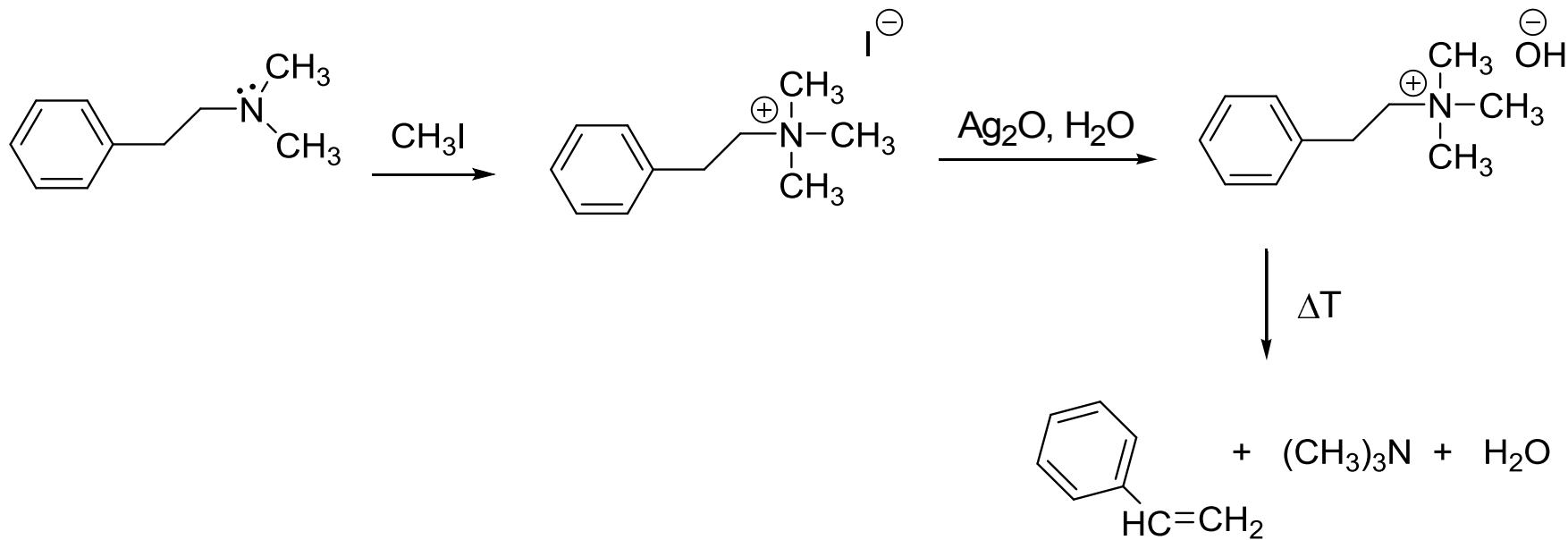
Pokuste se napsat mechanismus redukce azidu pomocí LiAlH_4



Doplňte hlavní produkty uvedených reakcí

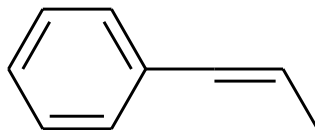
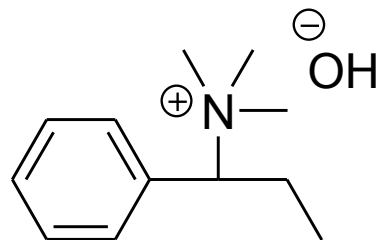
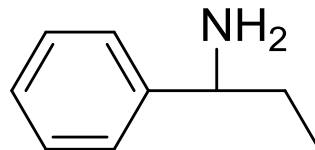


Hofmannova eliminace



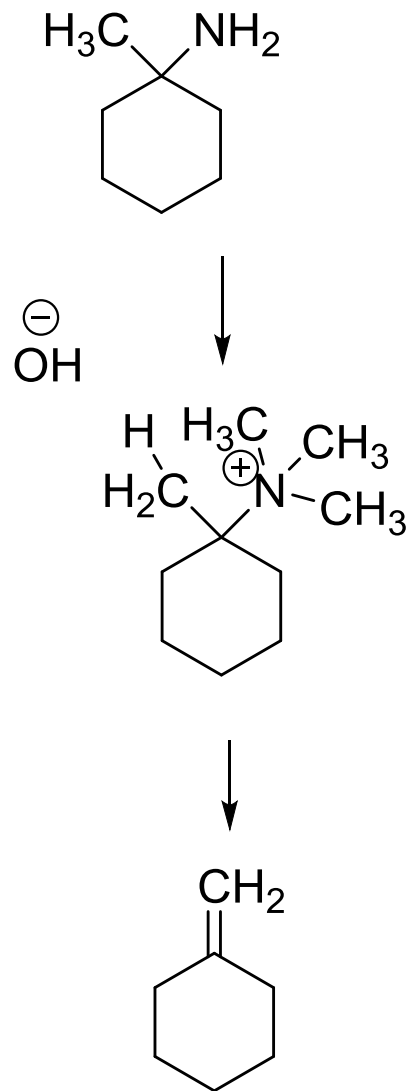
Hofmannova eliminace

doplňte produkty



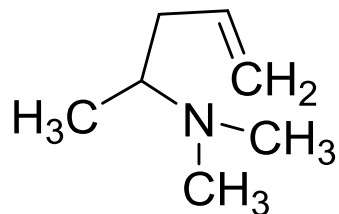
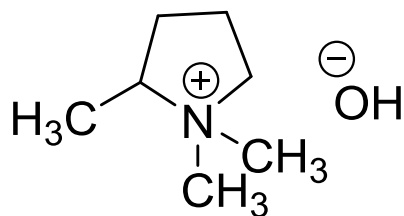
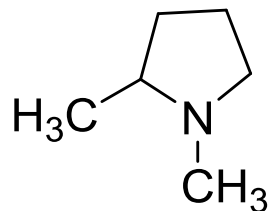
Hofmannova eliminace

doplňte produkty



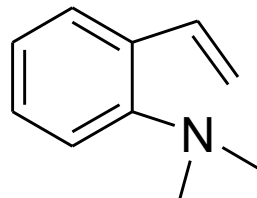
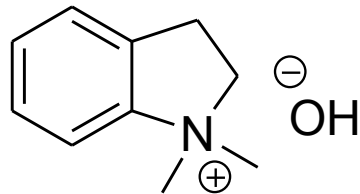
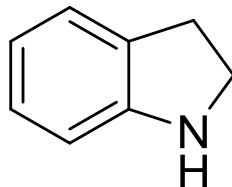
Hofmannova eliminace

doplňte produkty



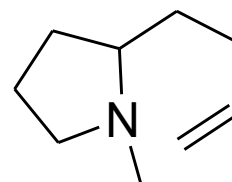
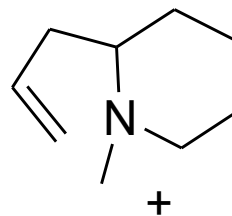
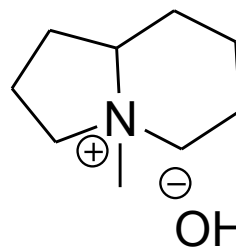
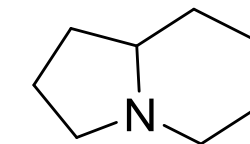
Hofmannova eliminace

doplňte produkty

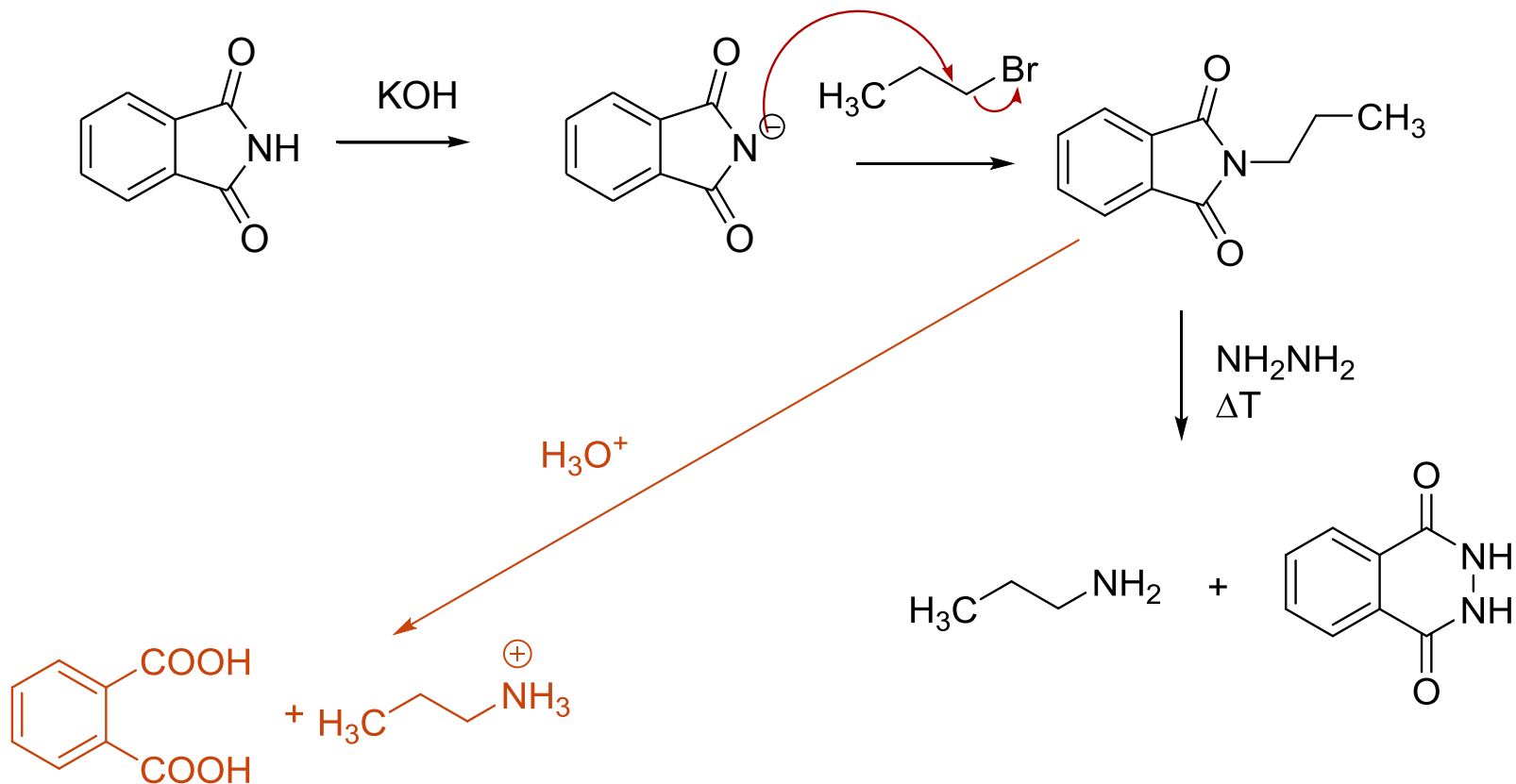


Hofmannova eliminace

doplňte produkty



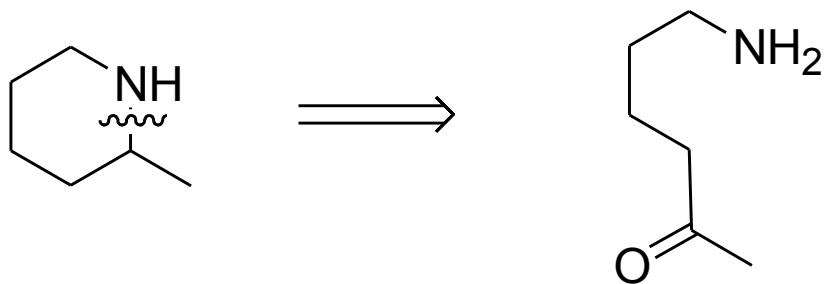
Gabrielova syntéza primárních aminů



Reduktivní aminace

karbonylová sloučenina + amin, pH = 4-6

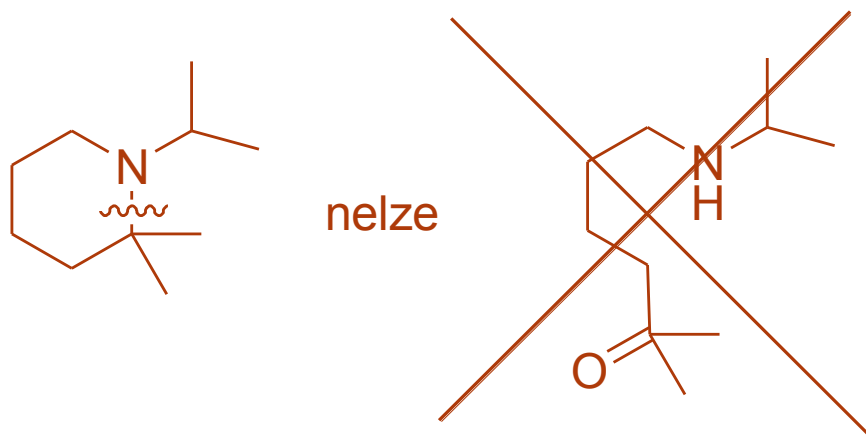
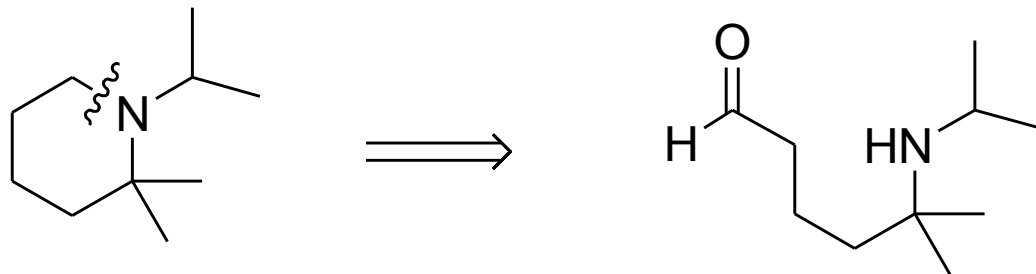
redukce: H_2 , Pd
 $NaBH(OAc)_3$
 $NaBH_3CN$



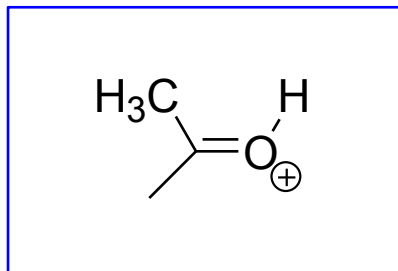
nebo



Reduktivní aminace

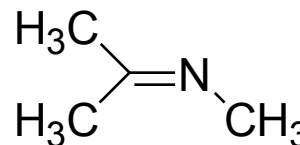
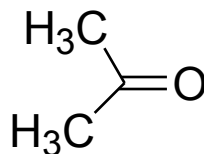
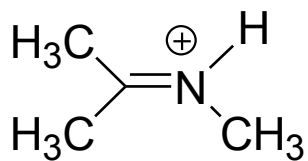


Proč se neredukuje i karbonyl ?



minimální
koncentrace
karbonyl je málo bazický

pH = 4-6

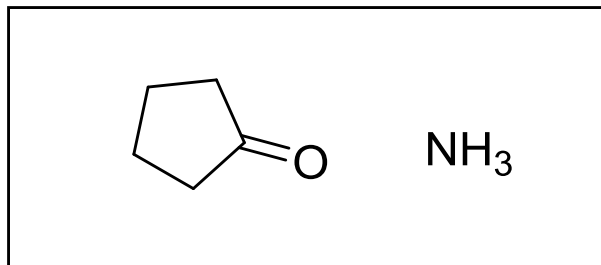
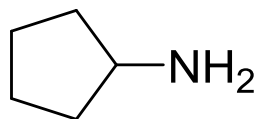


klesá reaktivita jako elektrofil



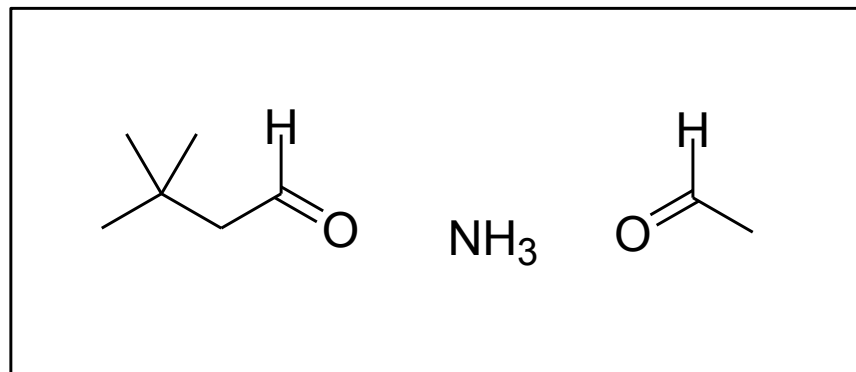
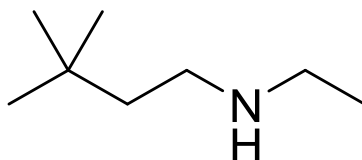
Reduktivní aminace

navrhněte syntézu uvedených sloučenin a jako zdroj dusíku využijte amoniak



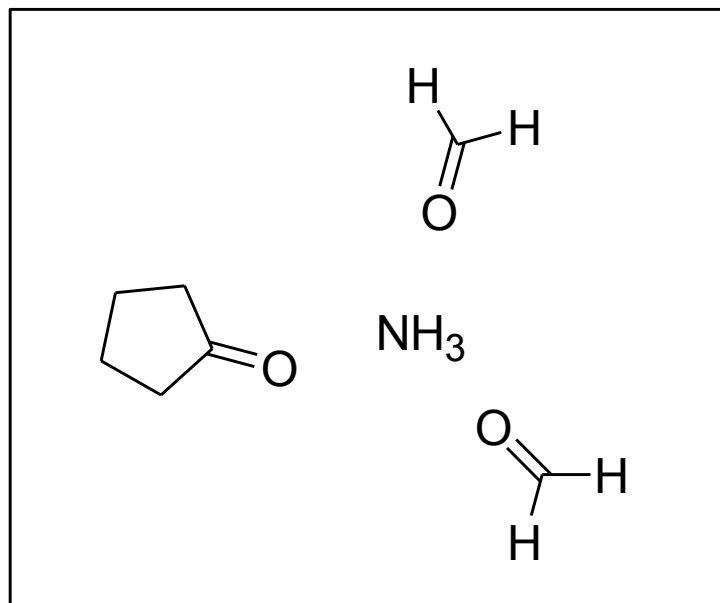
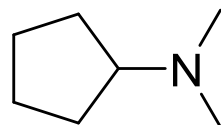
Reduktivní aminace

navrhněte syntézu uvedené sloučeniny a jako zdroj dusíku využijte amoniak



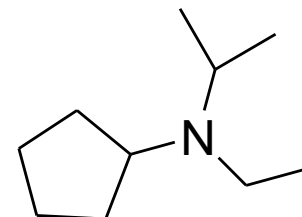
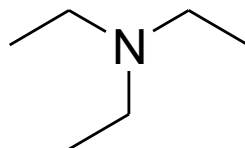
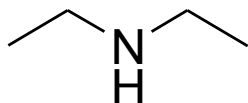
Reduktivní aminace

navrhněte syntézu uvedených sloučenin a jako zdroj dusíku využijte amoniak



Reduktivní aminace

navrhněte syntézu uvedených sloučenin



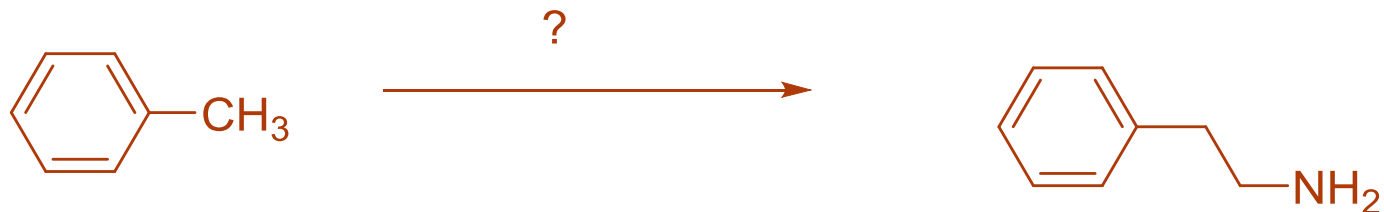
Navrhněte podmínky pro následující přeměny



- 1) oxidace na aldehyd
- 2) reaktivní aminace



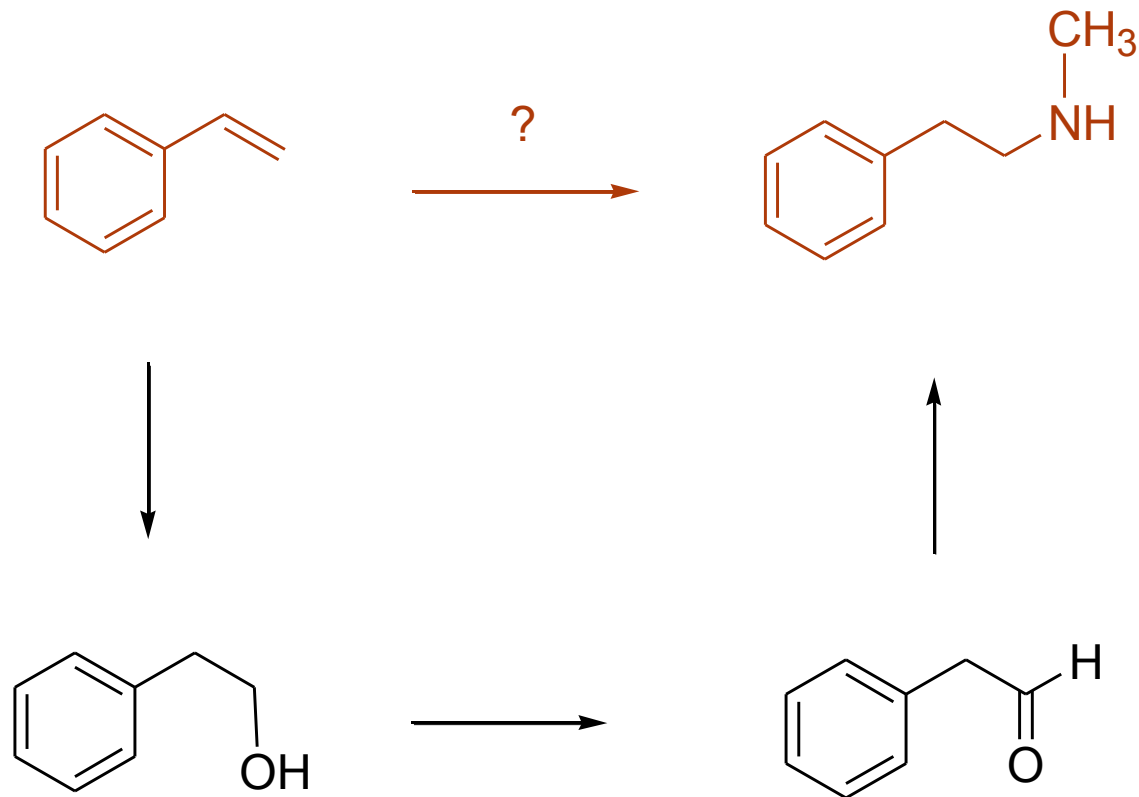
Navrhněte podmínky pro následující přeměny



- 1) halogenace
- 2) výměna halogenu za CN skupinu
- 3) redukce LiAlH₄



Navrhněte podmínky pro následující přeměny



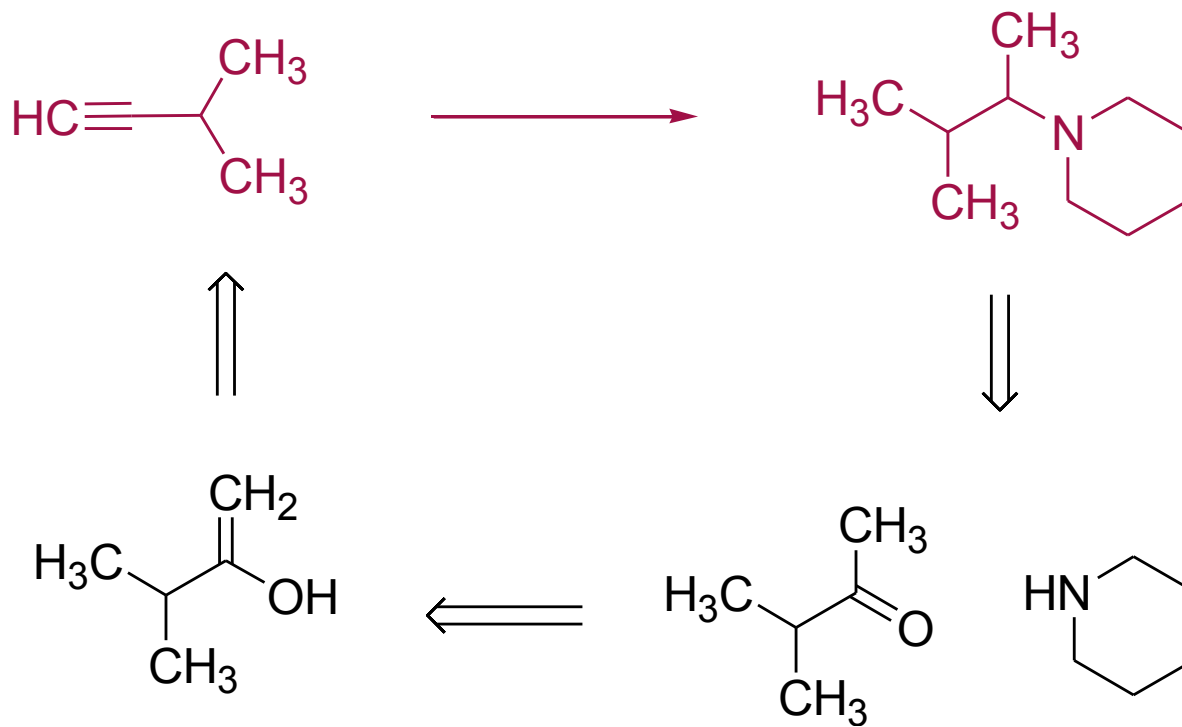
Navrhněte podmínky pro následující přeměny



- 1) radikálová halogenace
- 2) E2, *t*-BuOK
- 3) HBr, *hν*
- 4) Gabrielova syntéza



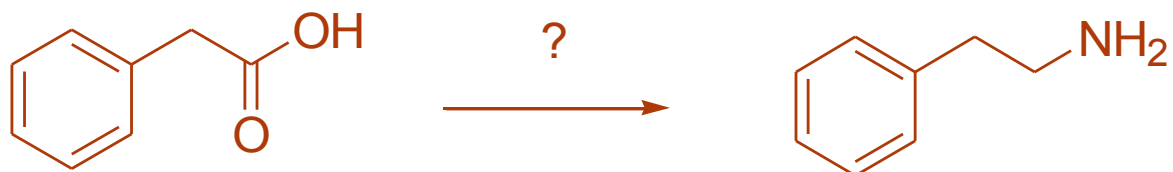
Navrhněte podmínky pro následující přeměny



- 1) adice vody
- 2) reduktivní aminace



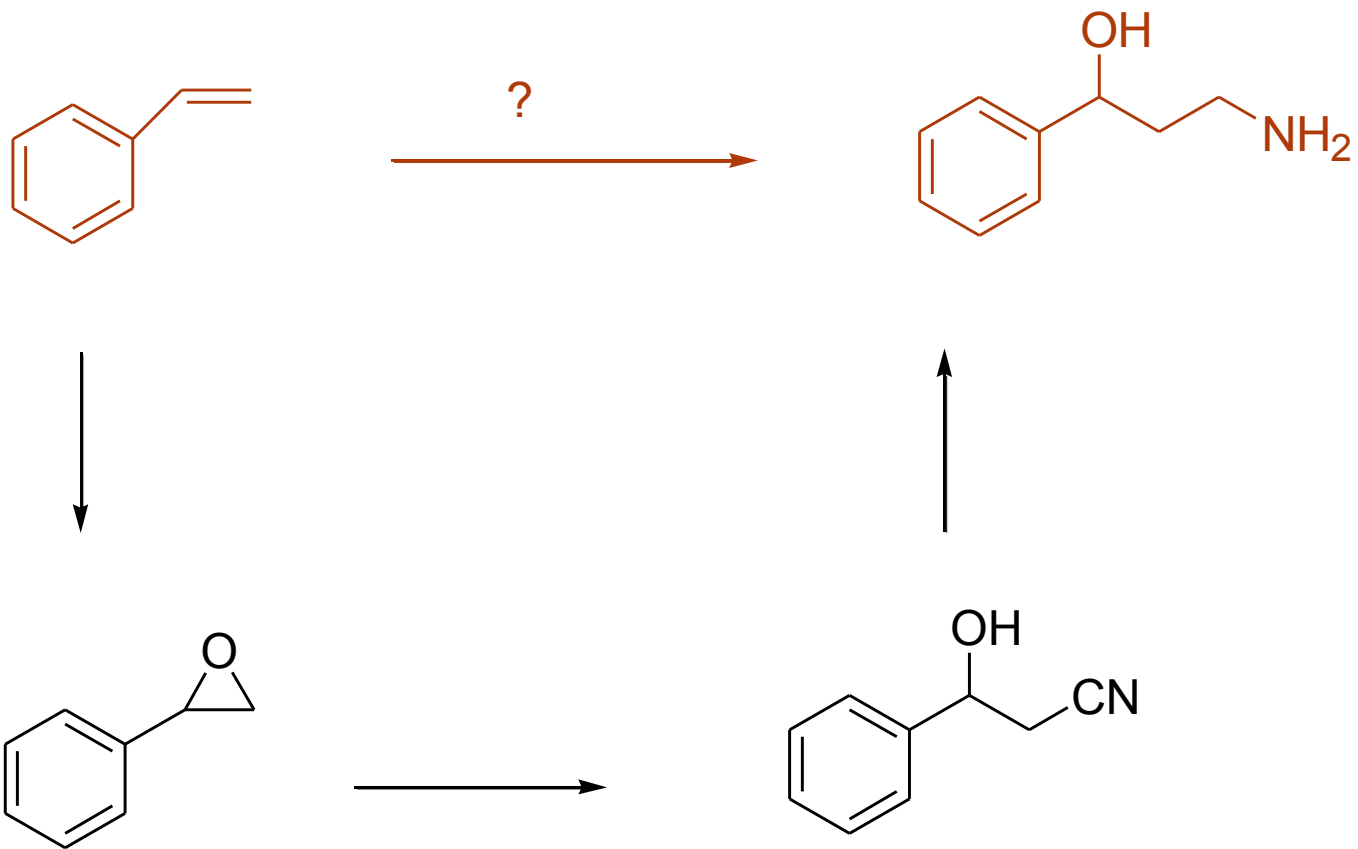
Navrhněte podmínky pro následující přeměny



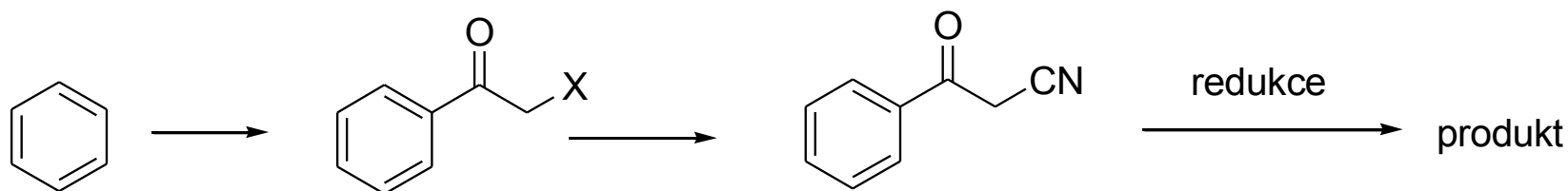
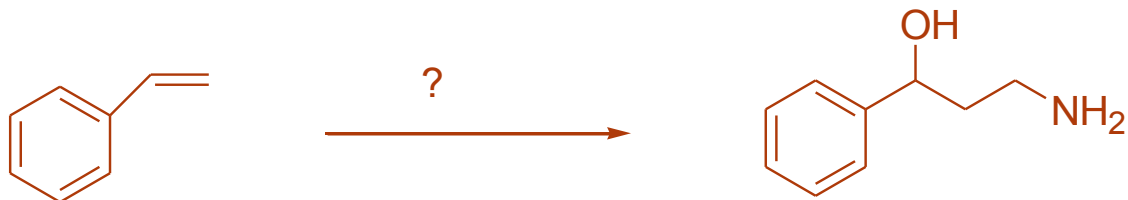
- 1) redukce na alkohol (LiAlH_4 , poté H_2O)
- 2) PBr_3
- 3) Gabrielova syntéza



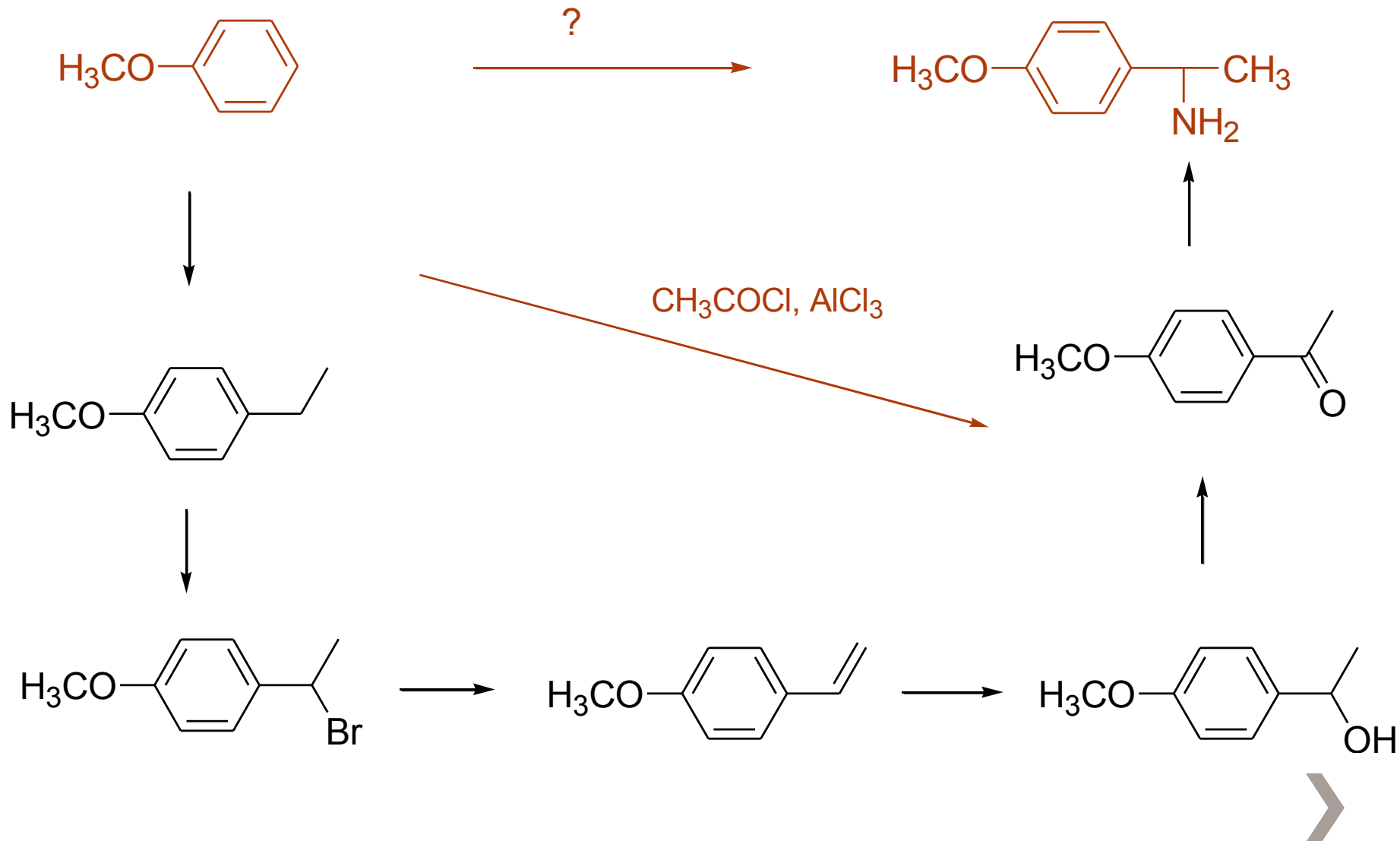
Navrhněte podmínky pro následující přeměny



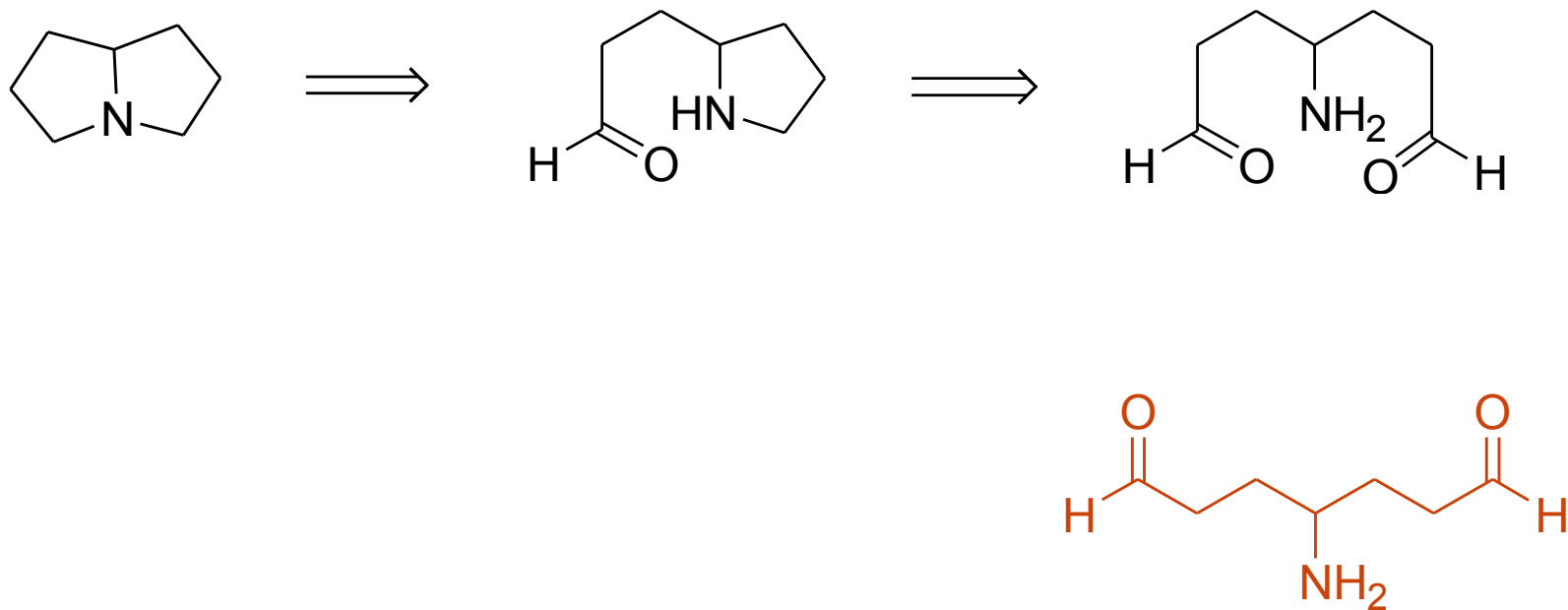
Navrhněte podmínky pro následující přeměny



Navrhněte podmínky pro následující přeměny



Navrhňte prekurzory pro syntézu následující sloučeniny reaktivní aminací



Navrhňte syntézu uvedené sloučeniny z methylcyklohexanu

