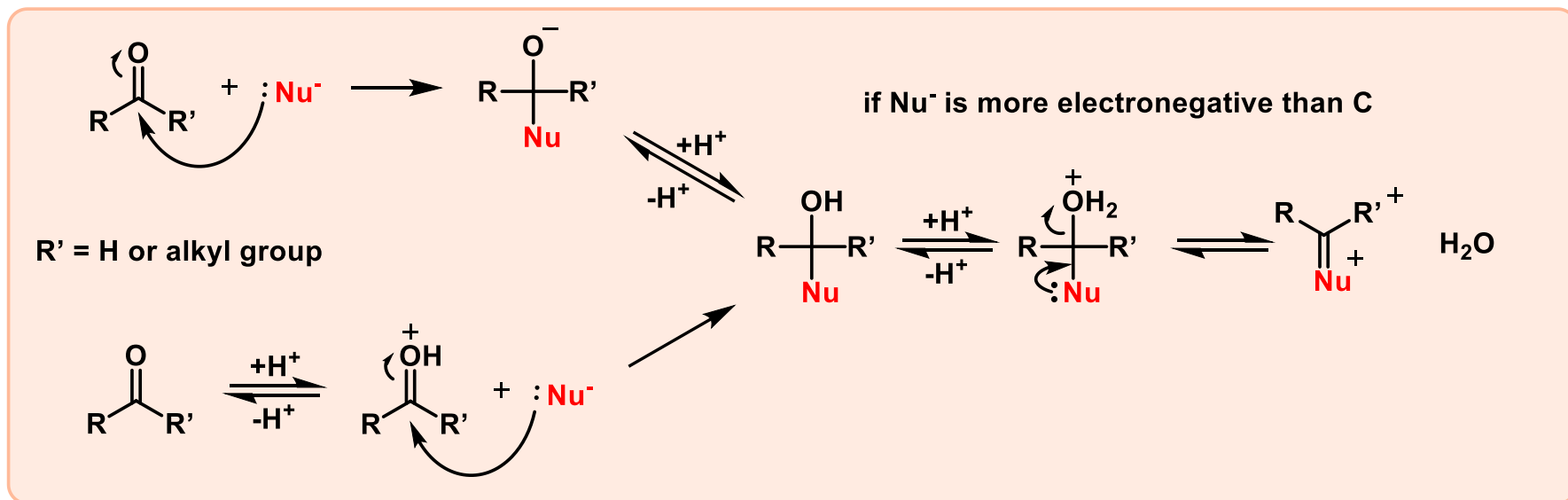
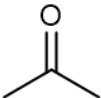
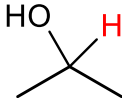
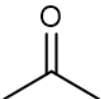
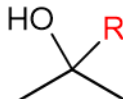
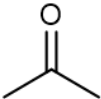
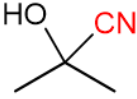
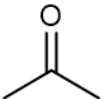
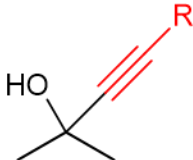
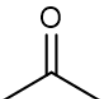
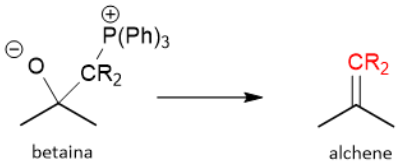


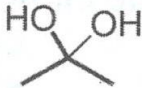
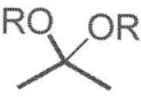
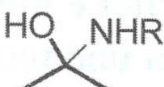
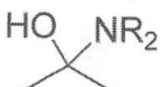
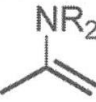
Composti carbonilici: Reazioni di Aldeidi e Chetoni



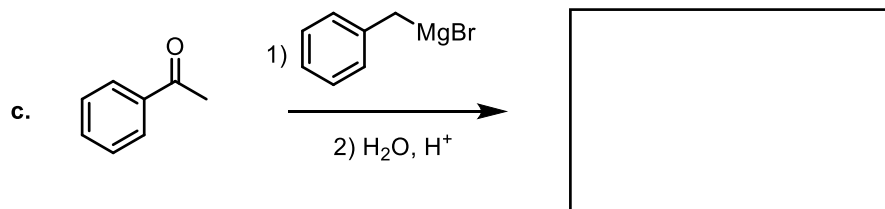
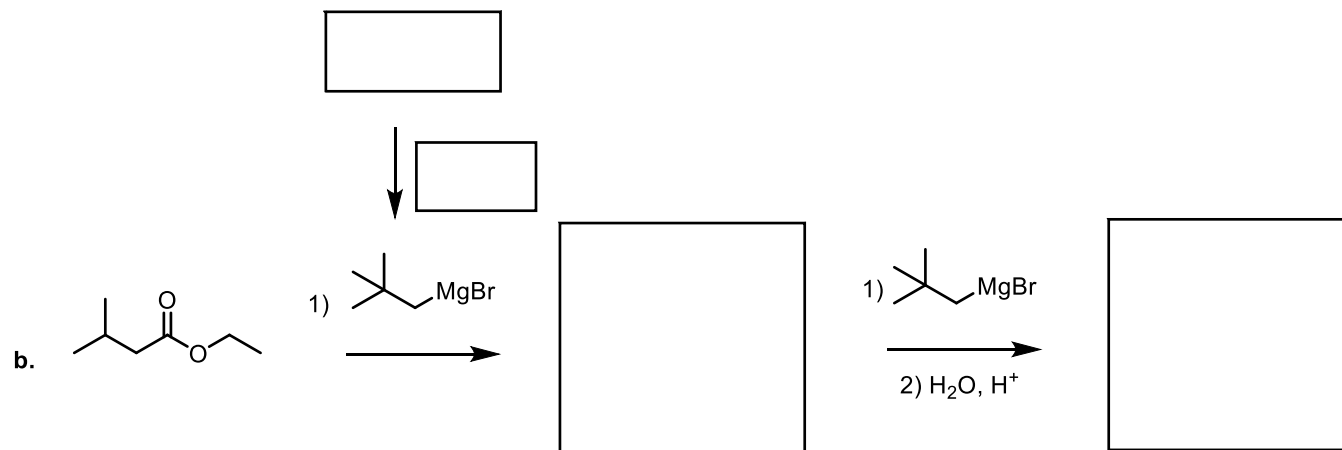
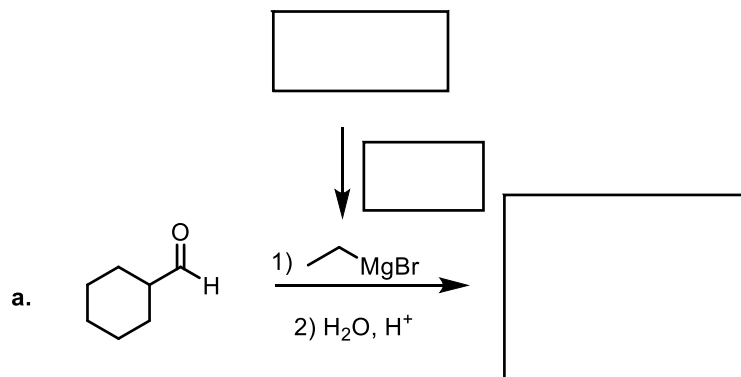
Addizione nucleofila con nucleofili carichi

Elettrofilo	Nucleofilo	Prodotto di addizione
	lone idruro H^-	 alcol
	Reattivi di Grignard RMgX	 alcol
	lone cianuro CN^-	 alcol
	lone acetiluro $\text{RC}\equiv\text{C}^-$	 alcol
	Ilide del fosforo (Reazione di Wittig) $(\text{Ph})_3\text{P}^+ \text{---} \text{CR}_2^-$	 betaina → alchene

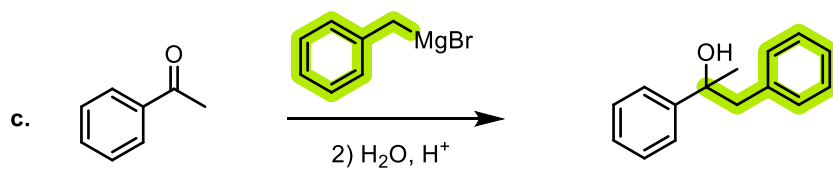
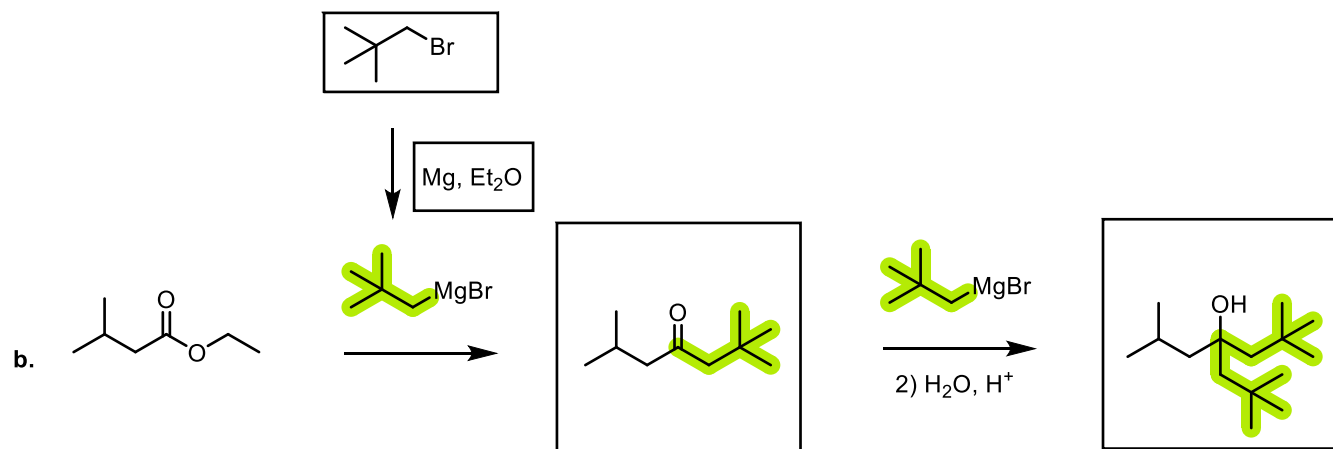
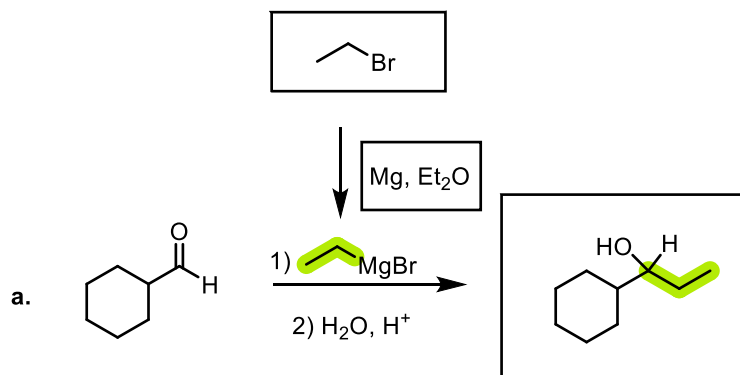
Addizione nucleofila con nucleofili neutri acido-catalizzata

Elettrofilo	Nucleofilo	Prodotto di addizione
	$\text{H}_2\text{O}, \text{H}^+$	 <i>gem</i> -diolo
	ROH, H^+	 $\xrightarrow[+\text{ROH}]{-\text{H}_2\text{O}}$  emiacetale acetale
	RNH_2, H^+	 $\xrightarrow{-\text{H}_2\text{O}}$  carbinolammina immina
	$\text{R}_2\text{NH}, \text{H}^+$	 $\xrightarrow{-\text{H}_2\text{O}}$  carbinolammina enammina

1. Esercizi Grignard

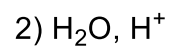
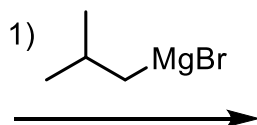
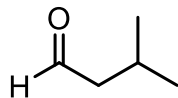


1. Esercizi Grignard - soluzioni

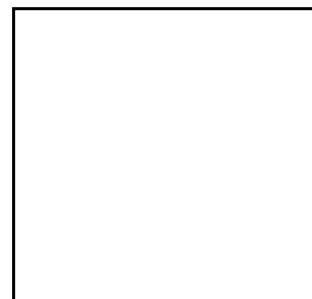
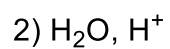
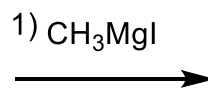
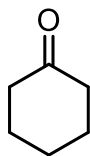


2. Esercizi Grignard

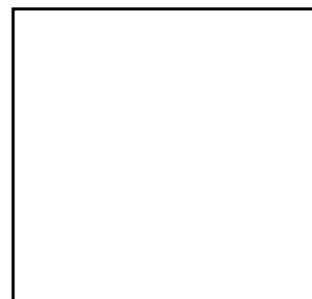
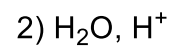
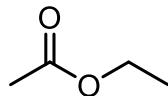
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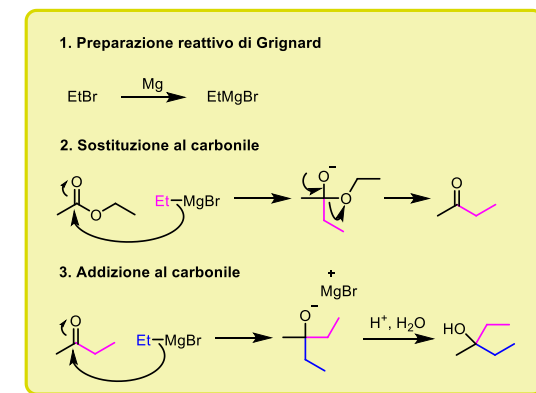
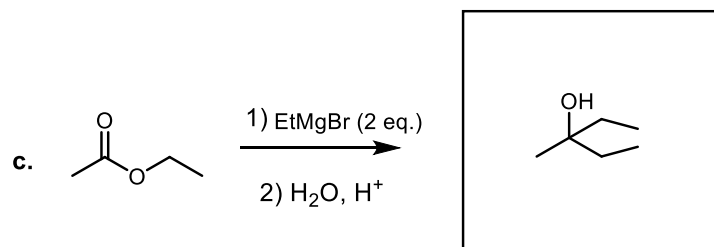
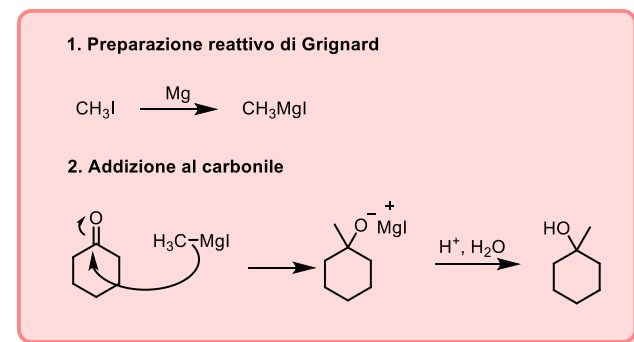
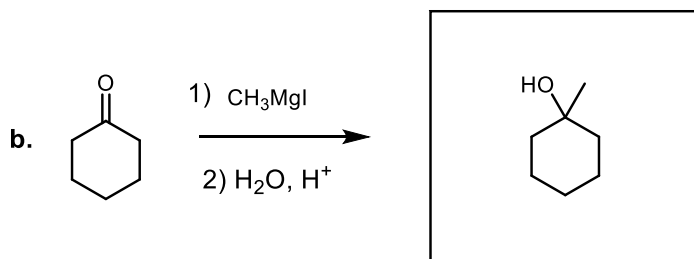
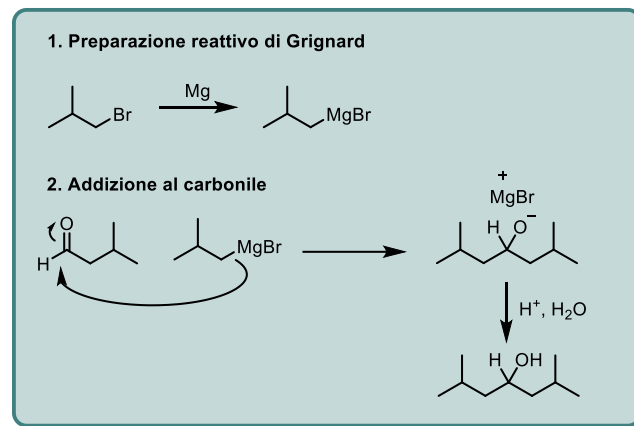
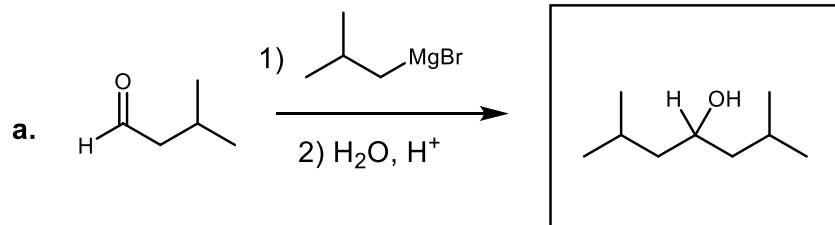
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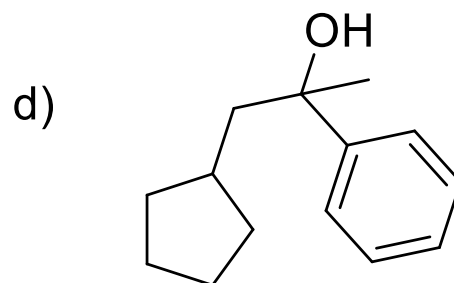
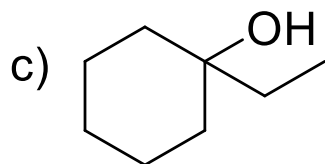
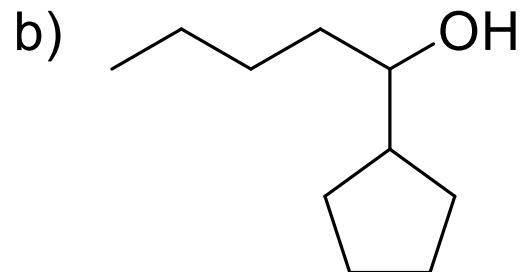
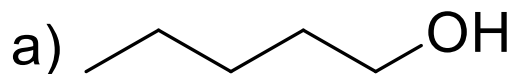
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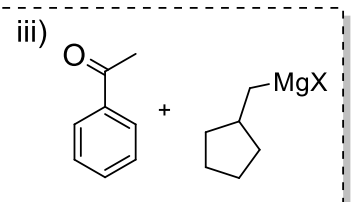
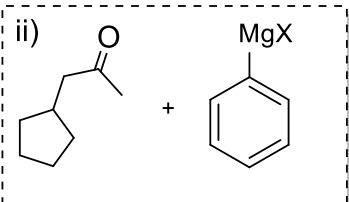
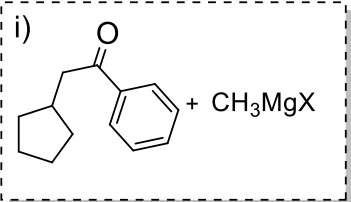
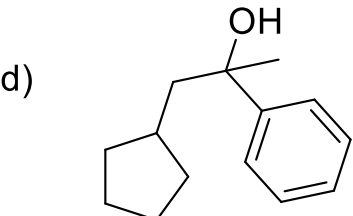
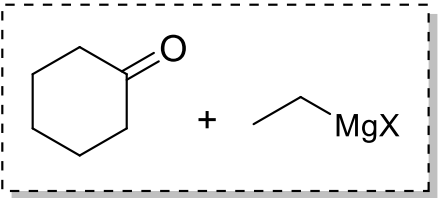
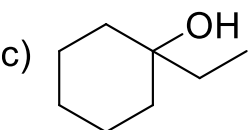
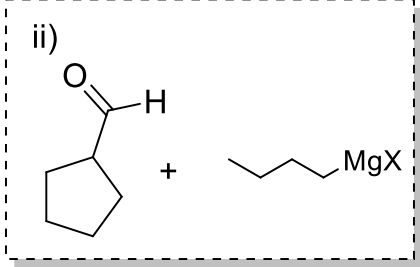
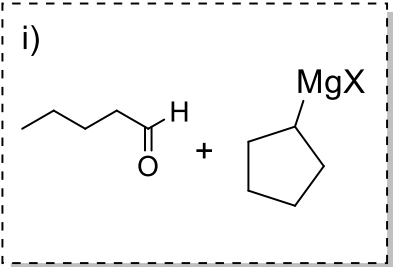
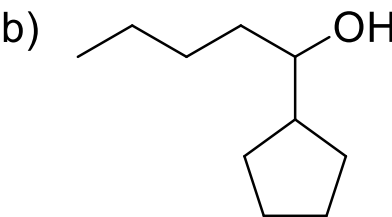
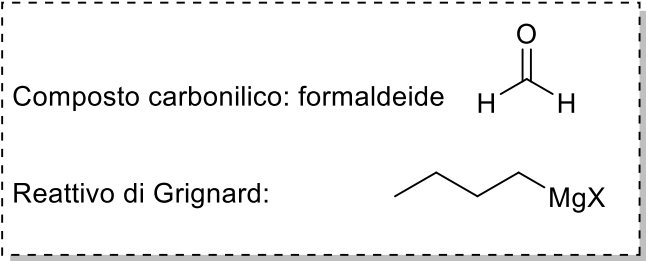
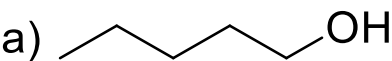
2. Esercizi Grignard - soluzioni



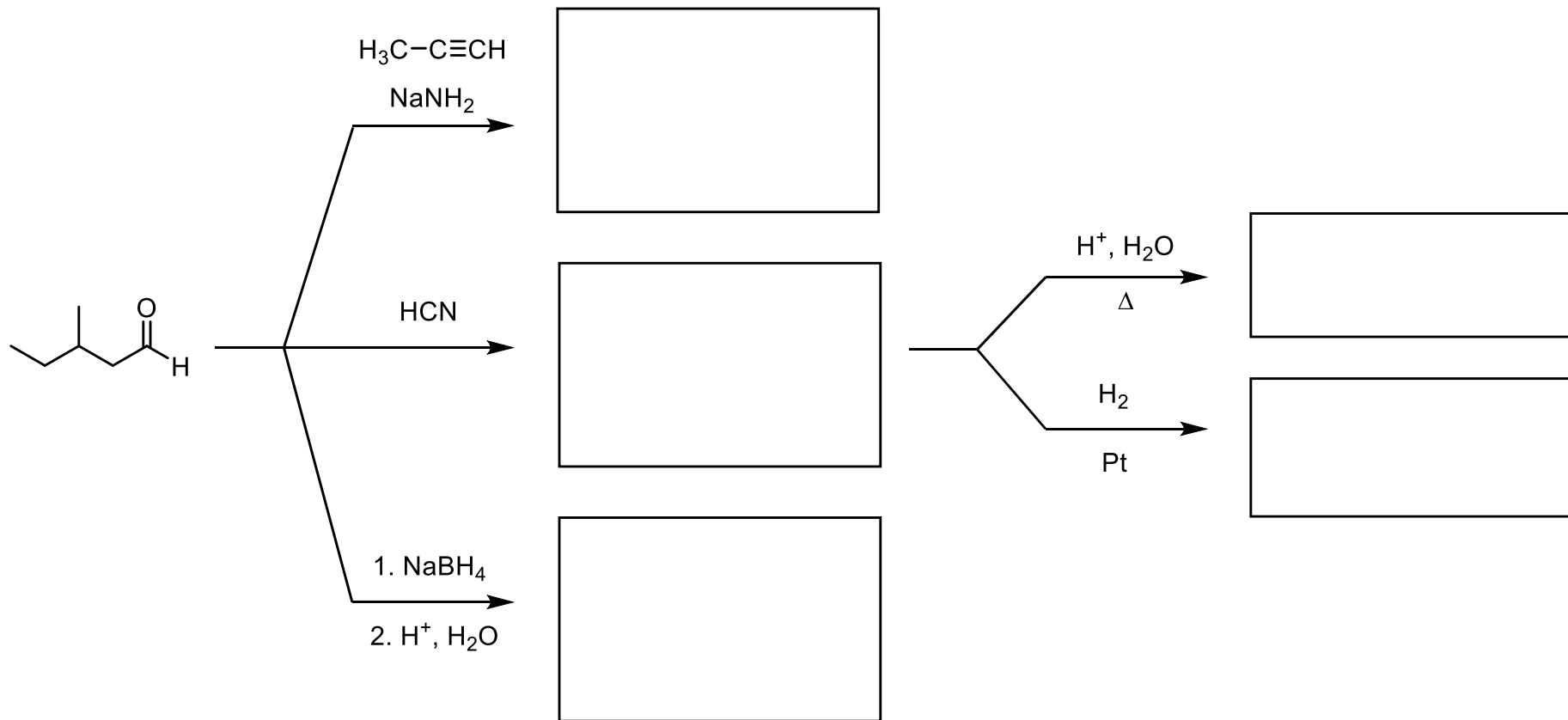
Esercizio: Indicare il reattivo di Grignard ed il composto carbonilico necessari per ottenere i seguenti alcoli (mostrare tutte le possibili strategie).



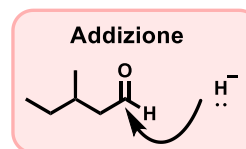
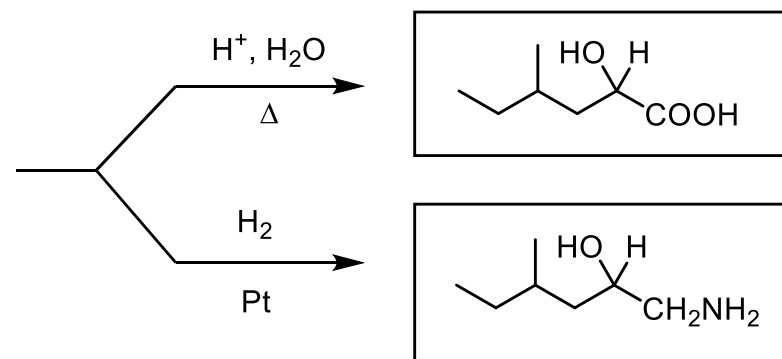
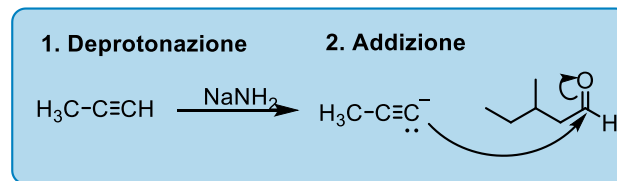
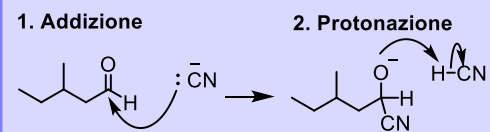
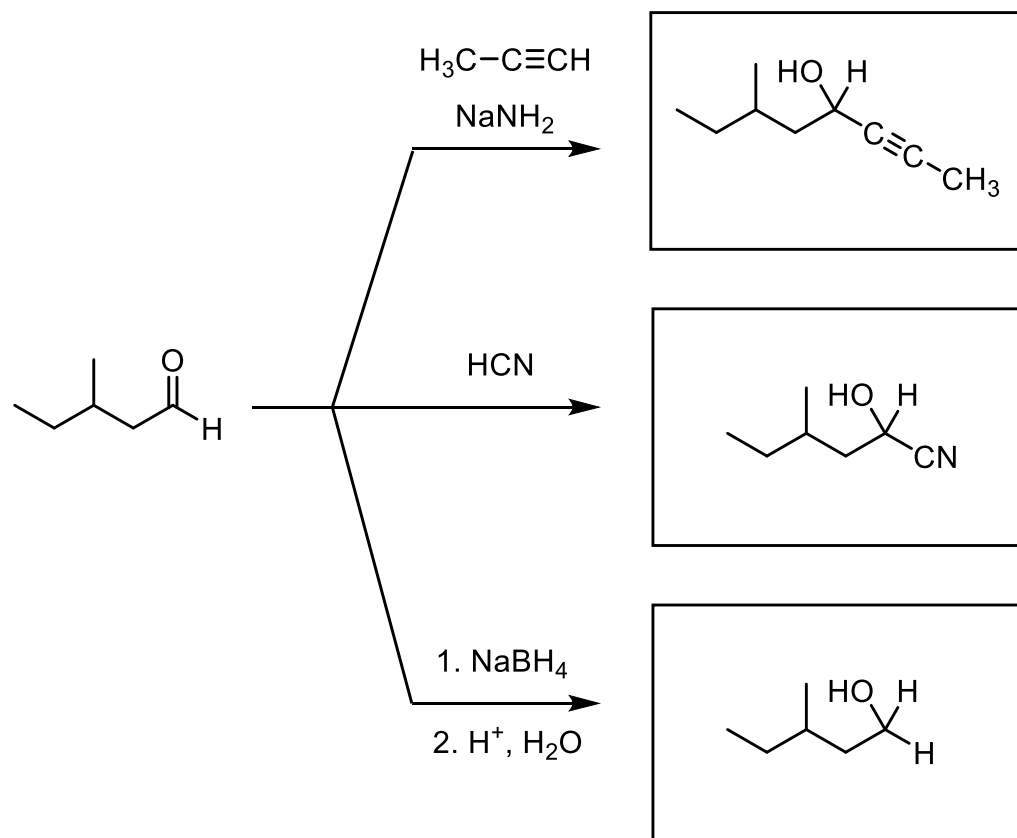
Esercizio: Indicare il reattivo di Grignard ed il composto carbonilico necessari per ottenere i seguenti alcoli (mostrare tutte le possibili strategie).



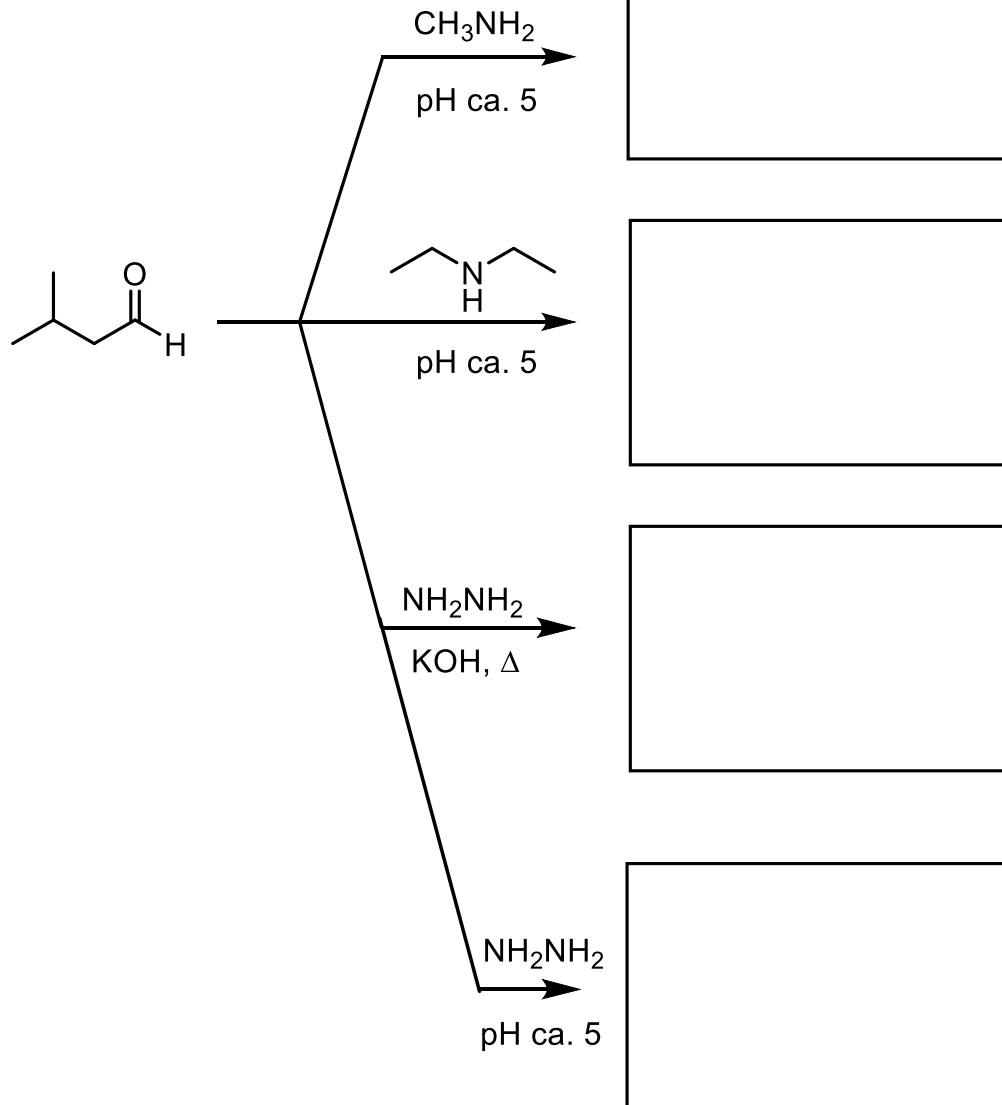
3. Esercizi acetiluro, cianuro e idruro - soluzioni



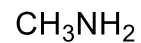
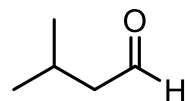
3. Esercizi acetiluro, cianuro e idruro - soluzioni



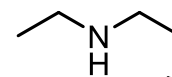
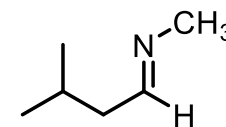
4. Esercizi nucleofili all'N



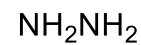
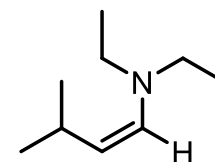
4. Esercizi nucleofili all'N - soluzioni



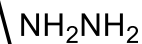
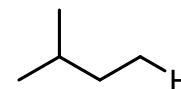
pH ca. 5



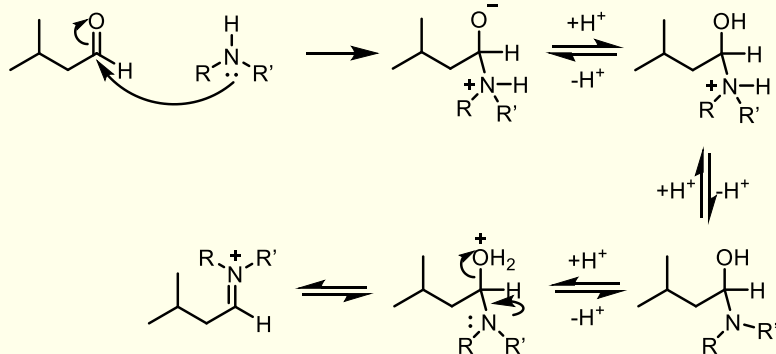
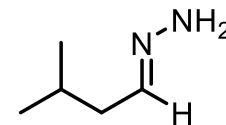
pH ca. 5



KOH, Δ

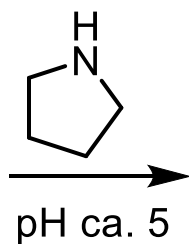
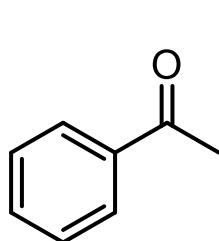


pH ca. 5

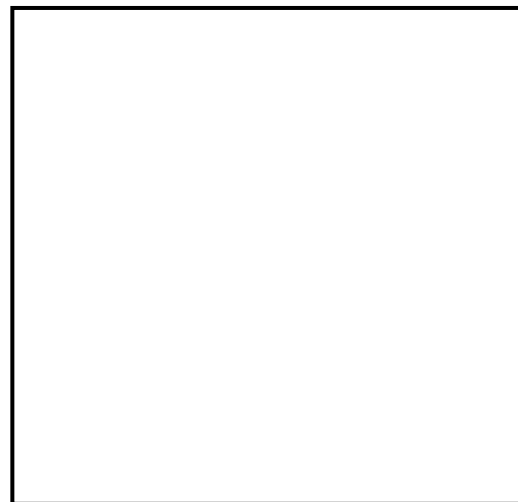
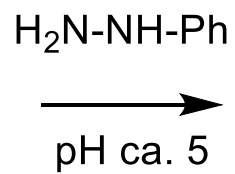
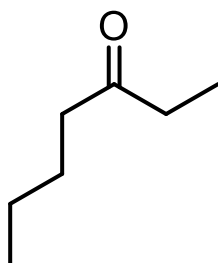


5. Esercizi nucleofili all'N

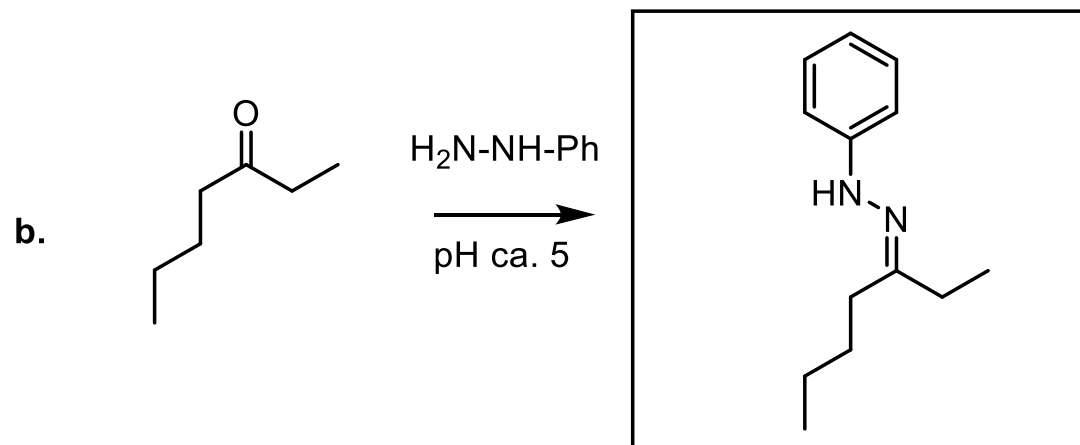
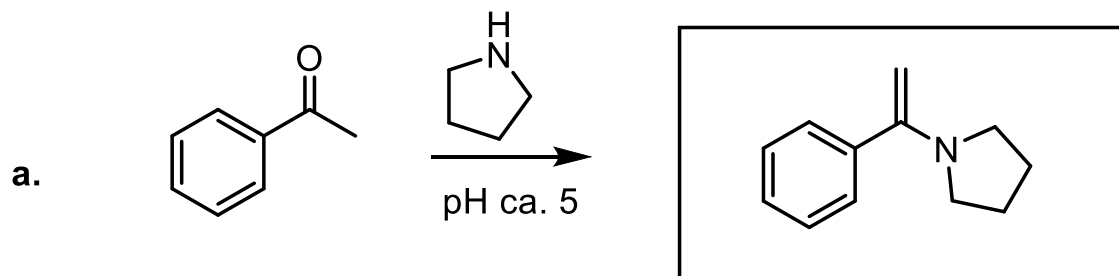
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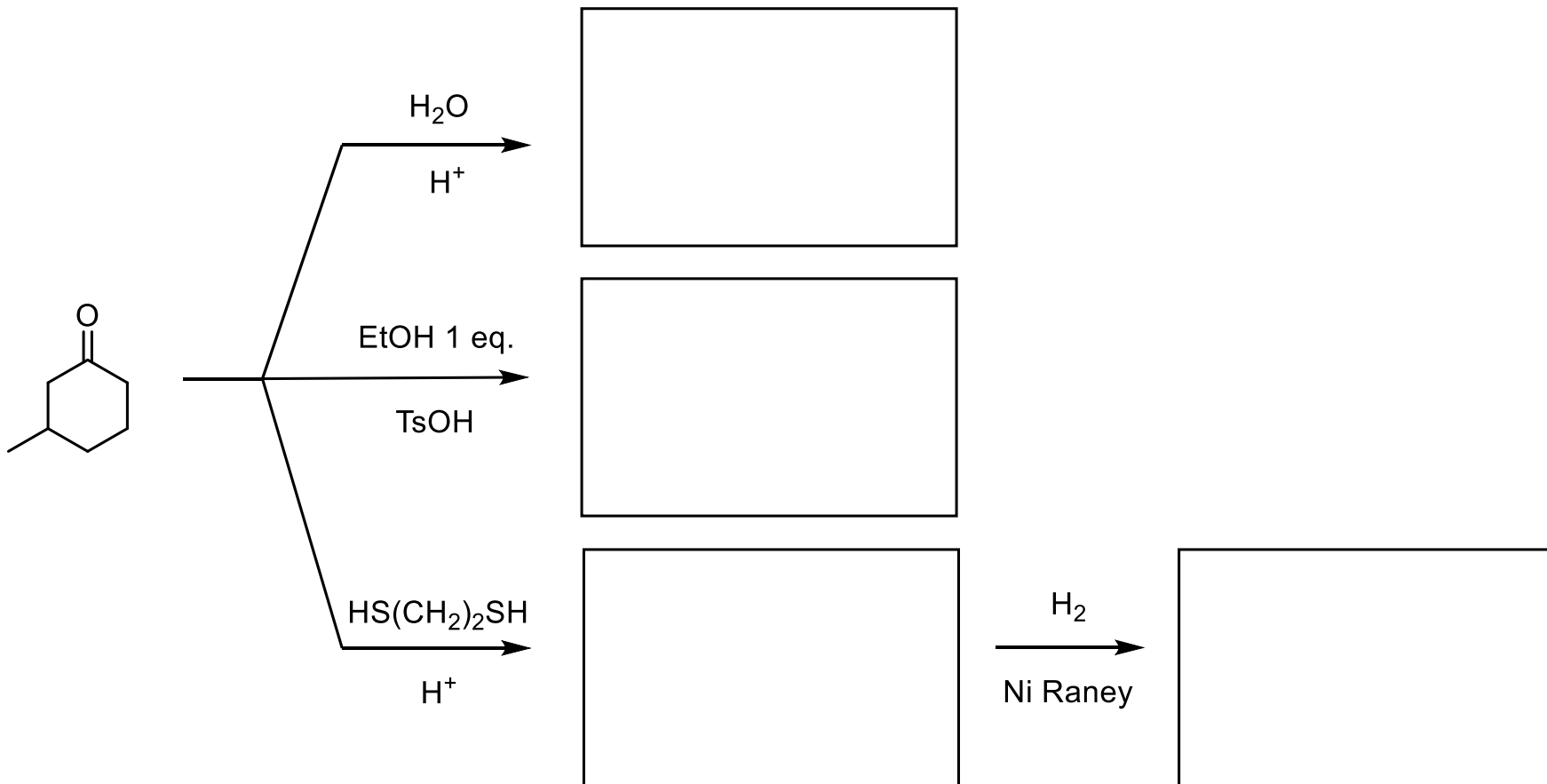
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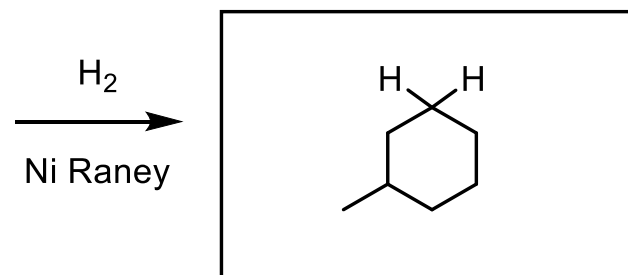
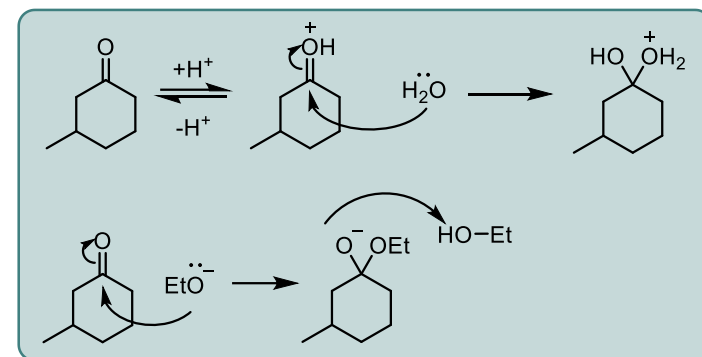
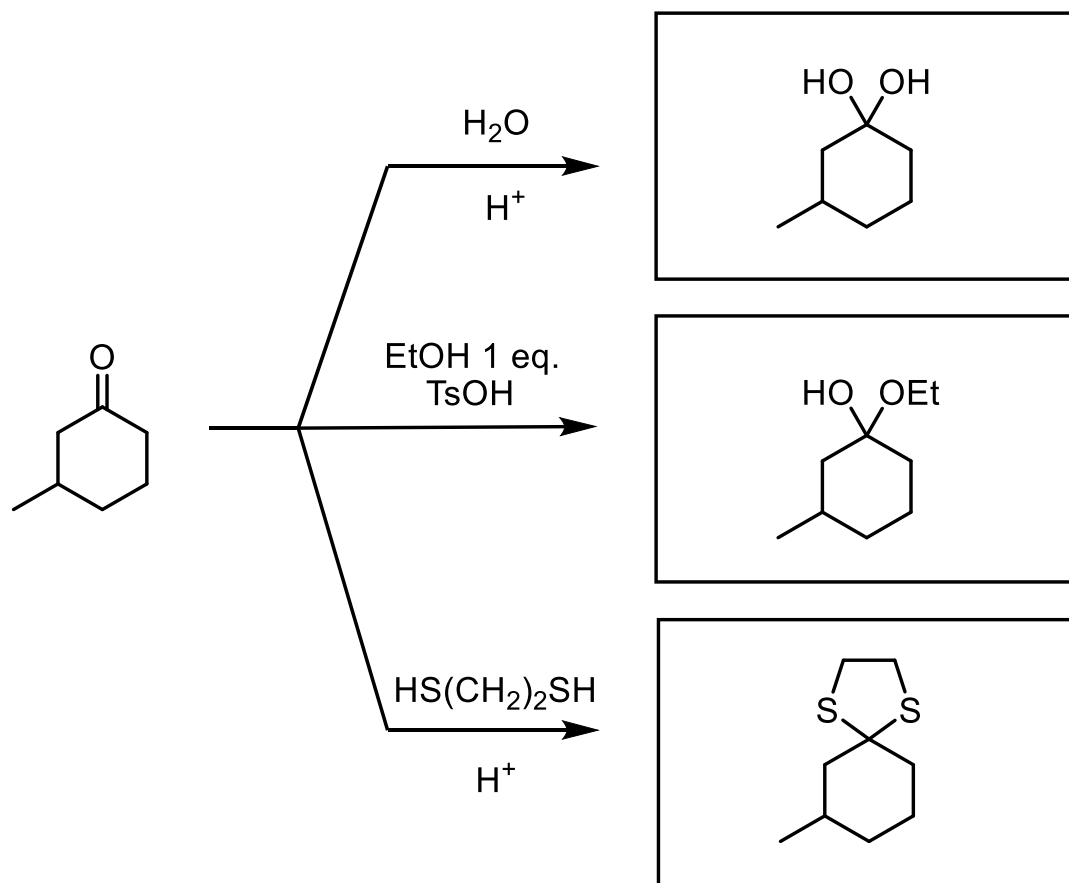
5. Esercizi nucleofili all'N - soluzioni



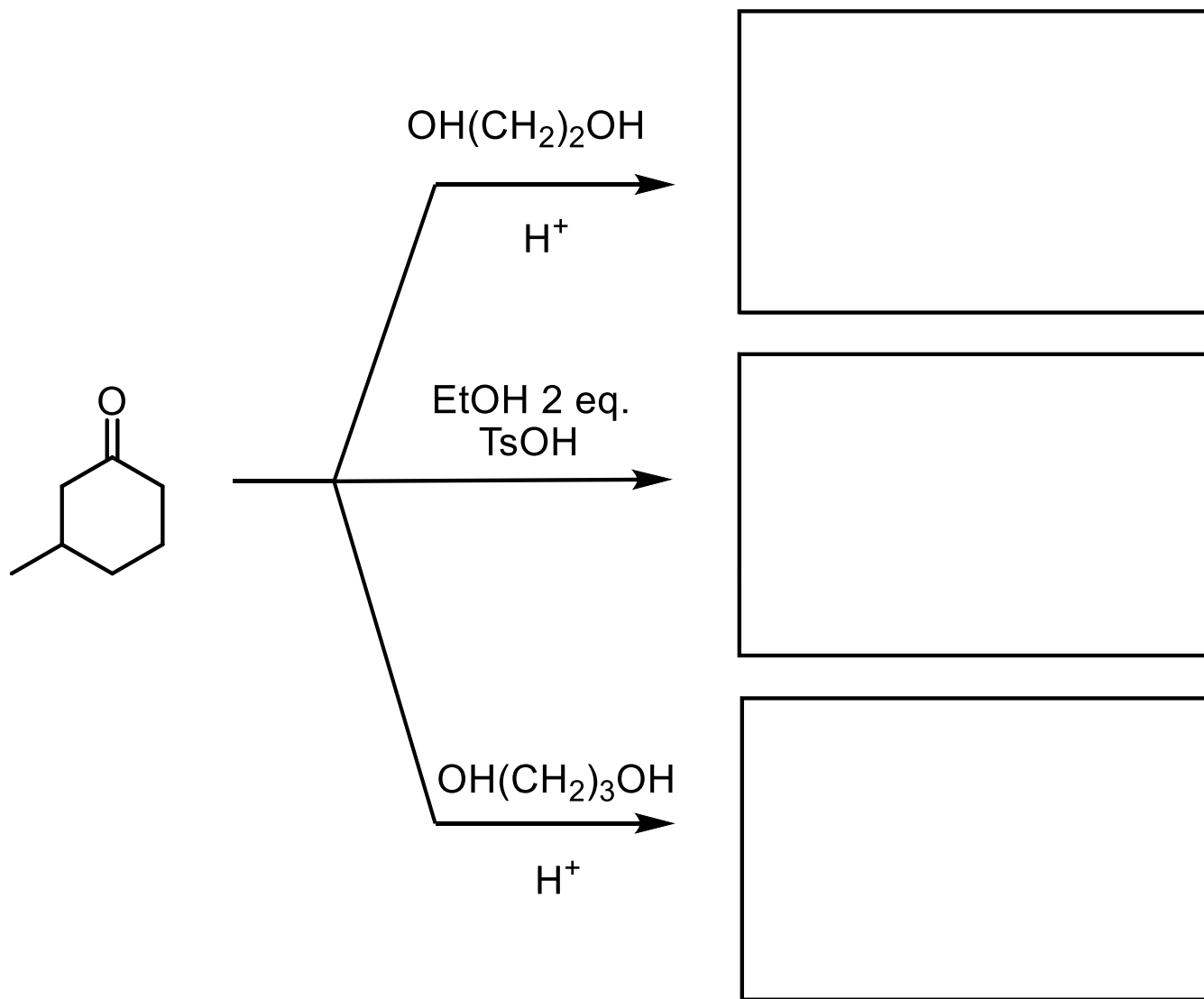
6. Esercizi nucleofili all'O



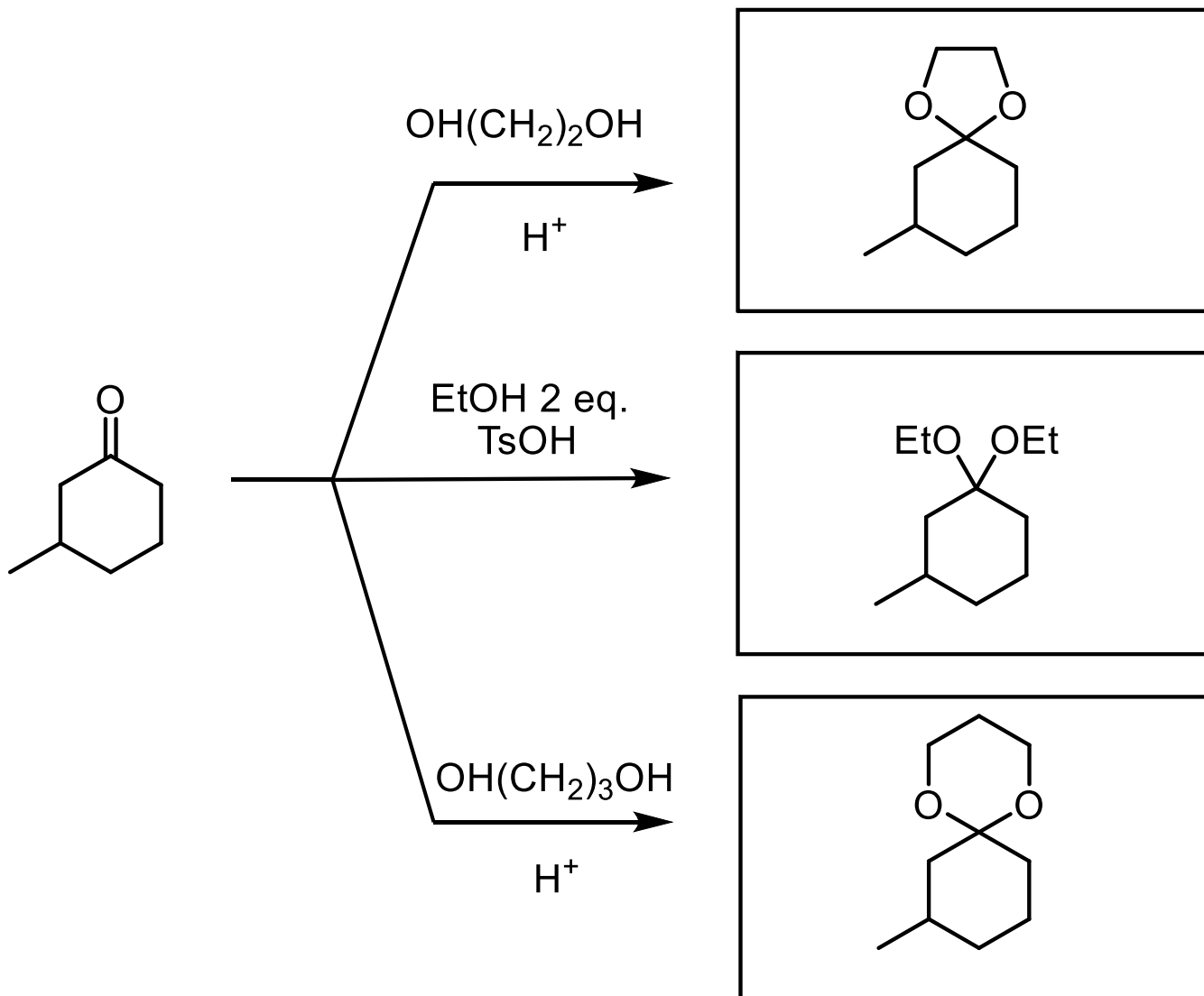
6. Esercizi nucleofili all'O - soluzioni



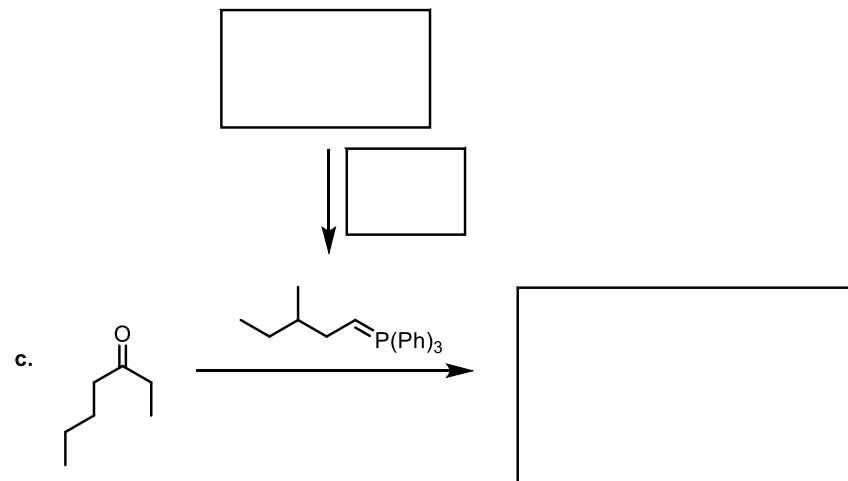
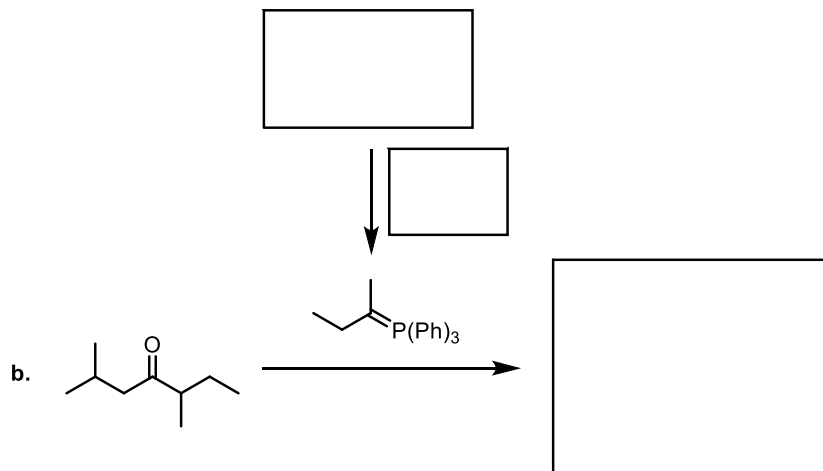
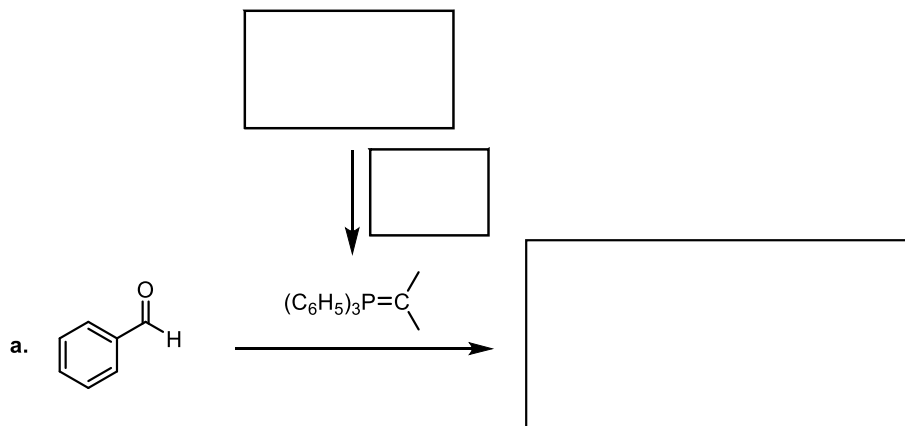
7. Esercizi nucleofili all'O



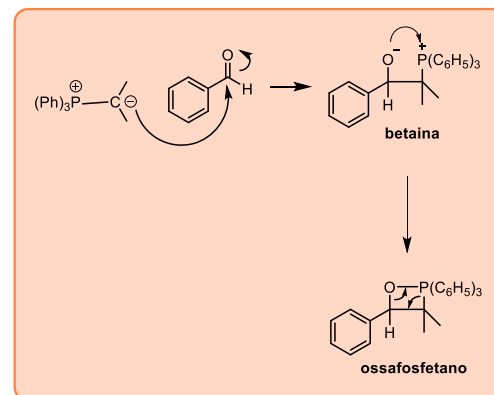
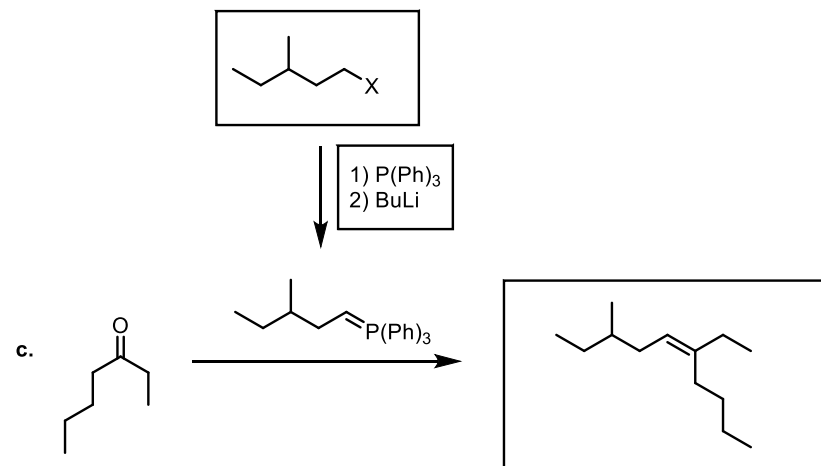
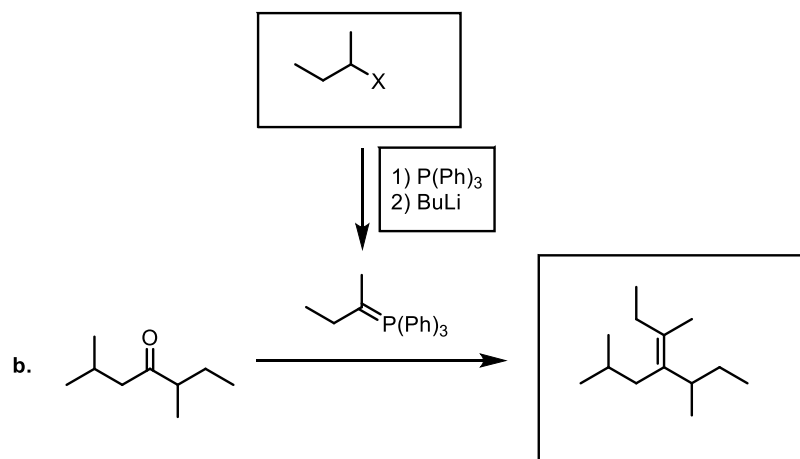
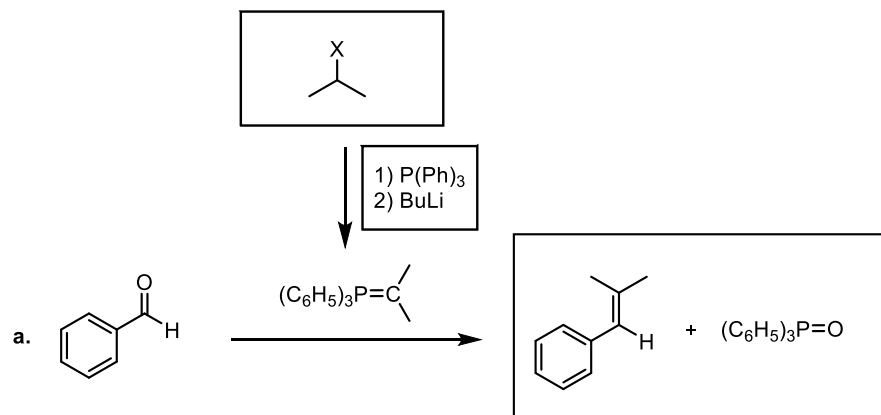
7. Esercizi nucleofili all'O - soluzioni



8. Esercizi Wittig

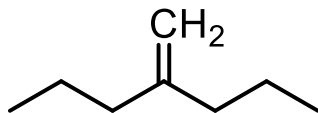


8. Esercizi Wittig – soluzioni

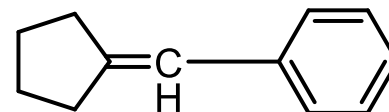


9. Esercizi Wittig: Indicare, per ciascuno dei seguenti alcheni, le due possibili strategie sintetiche utilizzabili nella reazione di Wittig. In ciascun caso, indicare la strategia migliore.

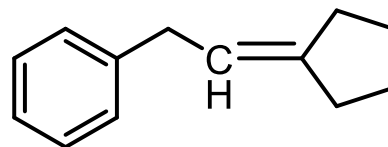
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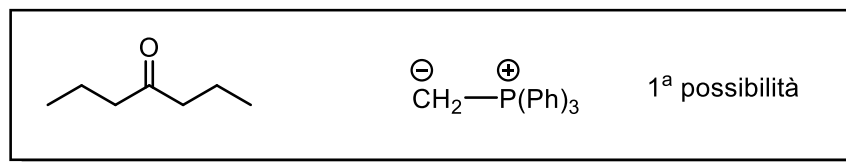
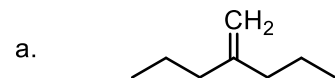
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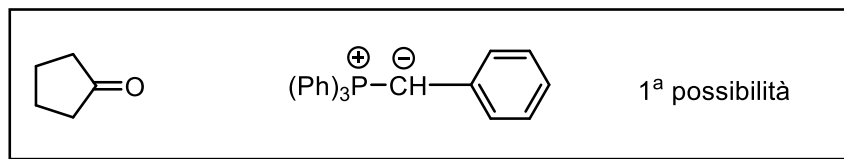
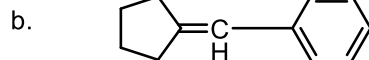
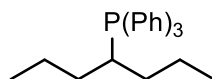
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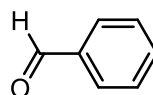
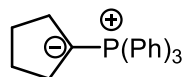
9. Esercizi Wittig: Indicare, per ciascuno dei seguenti alcheni, le due possibili strategie sintetiche utilizzabili nella reazione di Wittig. In ciascun caso, indicare la strategia migliore.



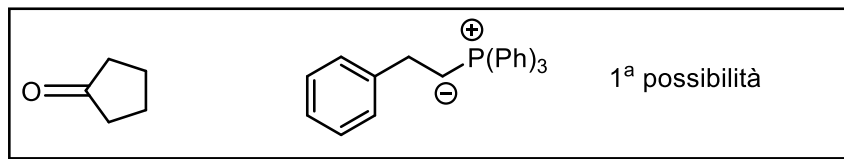
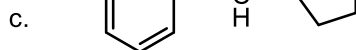
ilide da alogenuro metalico
migliore possibilità



ilide da alogenuro 1°
migliore possibilità



2^a possibilità



ilide da alogenuro 1°
migliore possibilità

