

1) Gregorius:



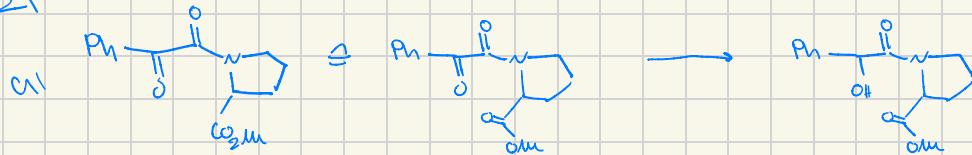
- $\text{Li}^+$  härter  $\rightarrow$  bessere Lewis Säure  $\rightarrow$  attackiert Carbonyl besser

- $\text{EN(Br)} = 2.04$     $\text{EN(Al)} = 1.61$     $\text{EN(H)} = 2.2$

$\Rightarrow \text{H}-\text{H}$  mehr polariert  $\rightarrow$  reaktiv.

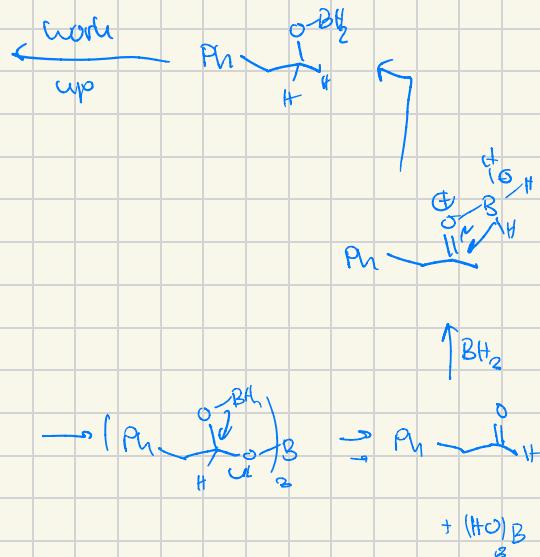
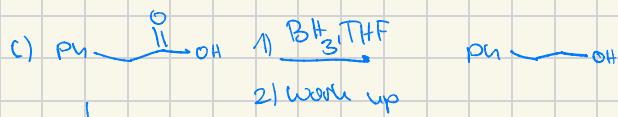
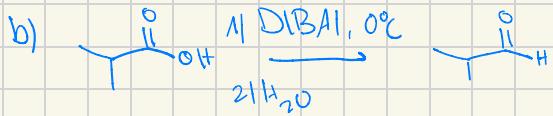
$\rightarrow \text{LiAlH}_4 > \text{LiBH}_4 > \text{NaBH}_4$

2)

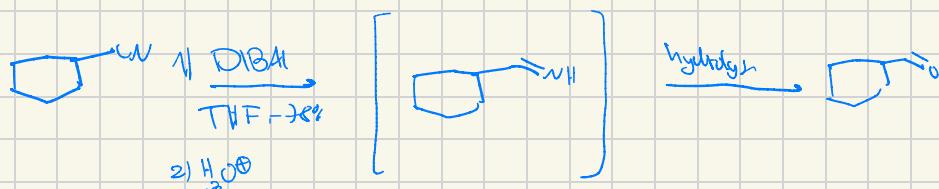


• mehrere Carbonyle, fragt der Selektivität, wollen nur den Keton reduzieren

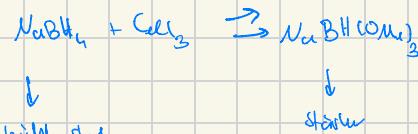
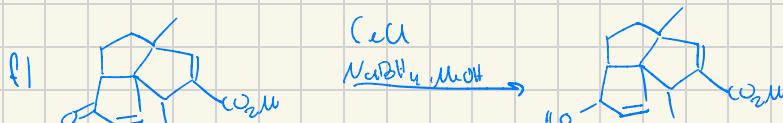
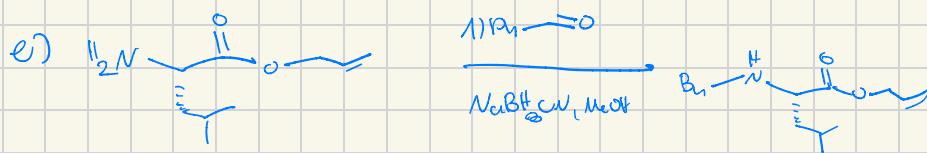
nicht Amid / Ester  $\rightarrow \text{NaBH}_4$  als Reduktionsmittel



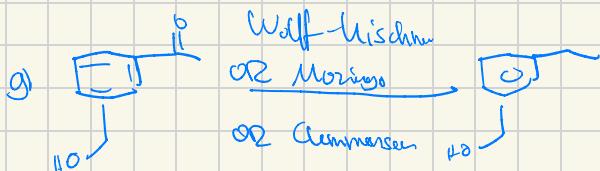
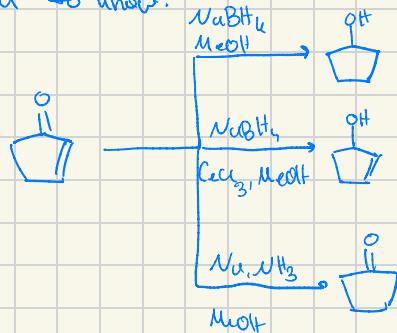
d)

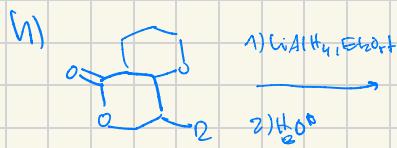


Imine sind nicht stabil  
in Wasser  $\text{H}_2\text{O}$

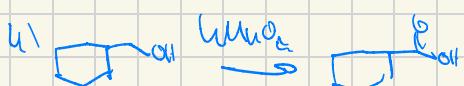
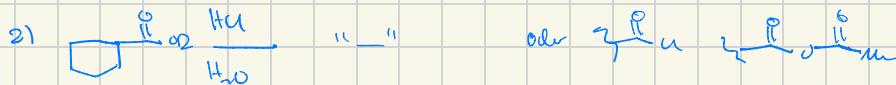
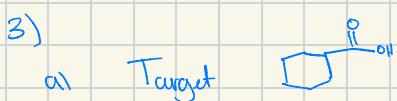
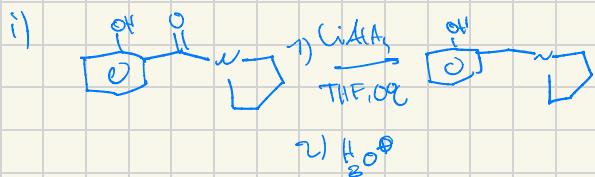


good to know:

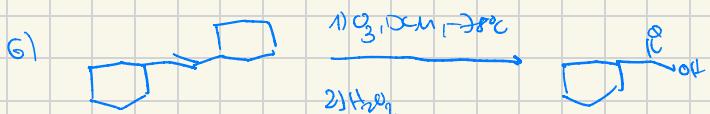


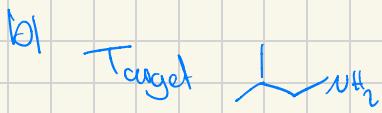


• Offset carbon



$\text{NaNO}_2$   
 $\text{NaH}_2\text{PO}_4$   
 $\text{tBuOH/H}_2\text{O}$





1) Reductive Amination  (Schwierig, um einfache C-N Bindungen zu machen)

