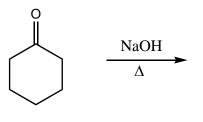
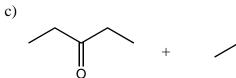
1. Give the condensation products (aldol, Claisen, Dieckmann) of the following molecules (Hint: it will help to think of this mechanistically):

a)

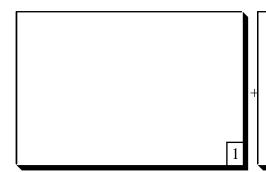


b) O 
$$H_3CH_2CO$$
  $CH_3$   $NaOCH_2CH_3$  ethanol



NaOH	
Δ	

+



d)

NaOCH<sub>2</sub>CH<sub>3</sub> ethanol

2. Draw the mechanism for the following reaction:

$$\begin{array}{c|c}
\hline
 & 1 \\
\hline
 & L_1 & N \\
\hline
 & 2) & Br
\end{array}$$

3. Fill in the missing steps in the following synthesis

