• Draw the repeating unit of the polymer formed in the following reactions.

\[
\begin{align*}
\text{CH}_3\text{O} & \quad \text{+} \quad \text{H}_2\text{N}\text{CH}_2\text{NH}_2 \\
\rightarrow & \quad \left(\text{C-} \quad \text{C} \quad \text{N} \quad \text{N} \quad \text{C-} \quad \text{O} \quad \text{O}\right)_n
\end{align*}
\]

• Show clearly the reagents you would use to carry out the following chemical conversion. Draw constitutional formulas for any intermediate compounds.

NOTE: More than one step is necessary.
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\[ \text{(i) CH}_3\text{CH}_2\text{MgBr} \]
\[ \text{(ii) H}_3\text{O}^+ \]
\[ \text{conc. H}_2\text{SO}_4 \]
\[ \text{(dehydration to produce more stable, highly substituted alkene - Zaitsev's rule)} \]

\[ \text{(Markovnikov addition of HBr across double bond with H adding to less substituted end)} \]