Introduction
Esters can be cleaved back into a carboxylic acid and an alcohol by reaction with water and a catalytic amount of acid.

General Reaction

\[
\text{Ester} \xrightarrow{\text{H}_2\text{O}, \text{H}_3\text{O}^+} \text{Carboxylic Acid} + \text{Alcohol}
\]

Example 1:

\[
\begin{array}{c}
\text{O} \\
\text{C} \\
\text{O} \hspace{1cm} \text{CH}_2\text{CH}_3 \\
\text{C} \\
\text{O} \hspace{1cm} \text{OH} + \text{HO-CH}_2\text{CH}_3
\end{array}
\]

Mechanism

1) Protonation of the Carbonyl

2) Nucleophilic attack by water

3) Proton transfer
4) Leaving group removal

Contributors

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