



# ORGANIC CHEMISTRY

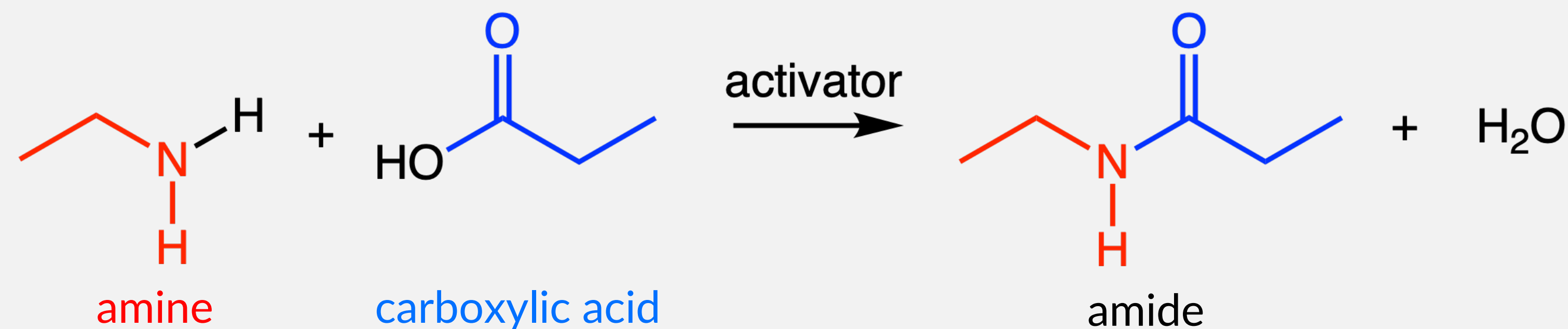
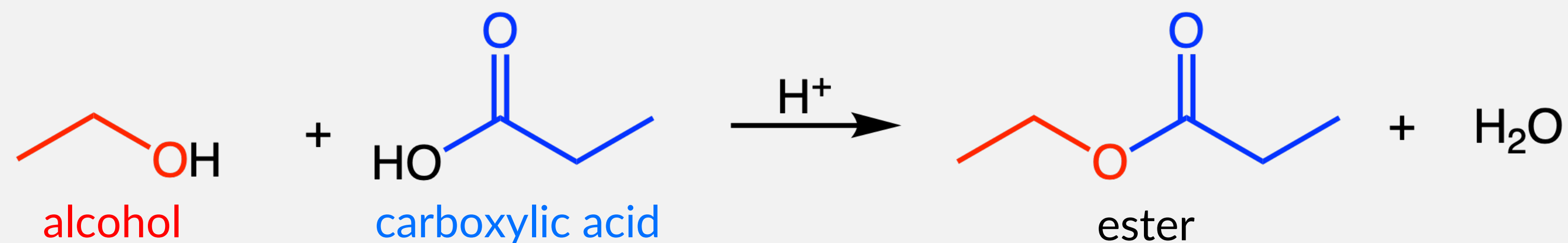
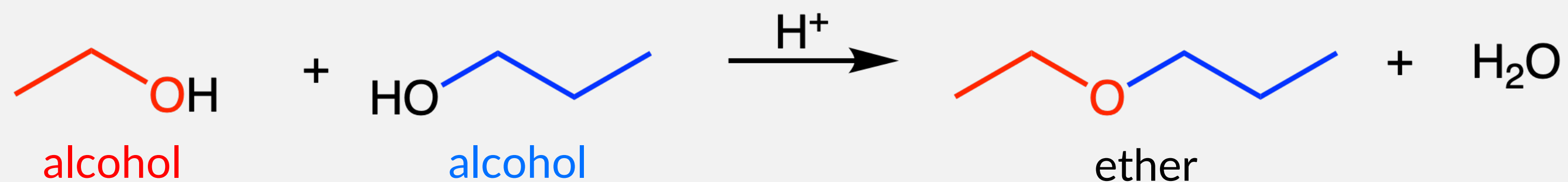
## CONDENSATION REACTIONS

CHEMISTRY 165 // SPRING 2020

# Condensation reactions

In general terms, condensation reactions are:  $A + B \rightarrow A-B + \text{small molecule (such as: H}_2\text{O, NH}_3\text{, HCl, etc.)}$

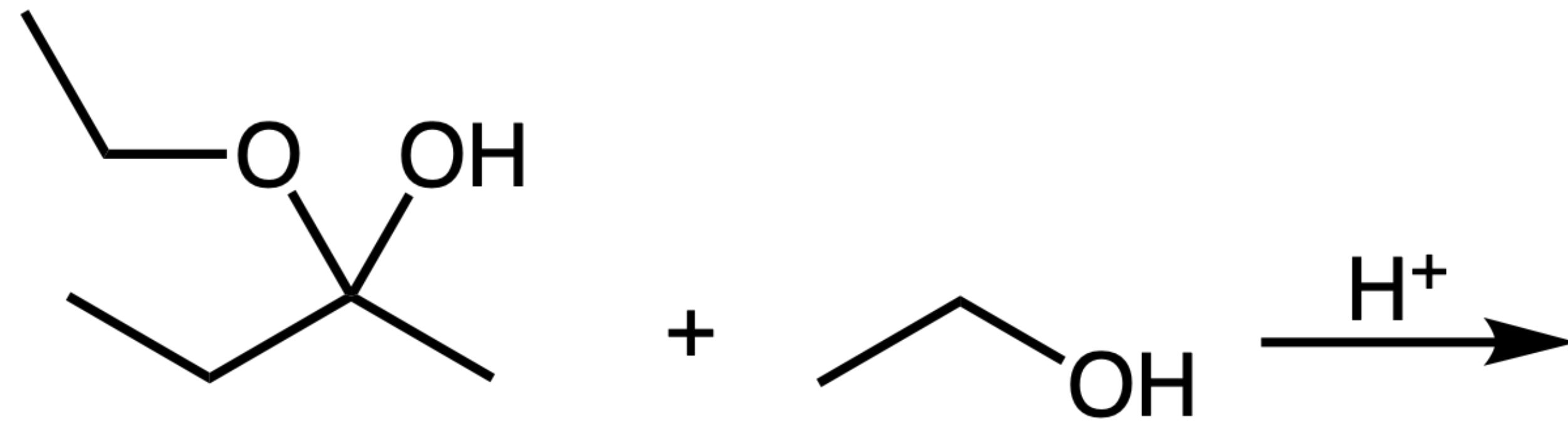
Reaction: combine two oxygenates into another oxygenate; requires an acid catalyst ( $\text{H}^+$ ) or activator.



# PRACTICE PROBLEM 1

Does the product of the following condensation reaction contain a chiral center?

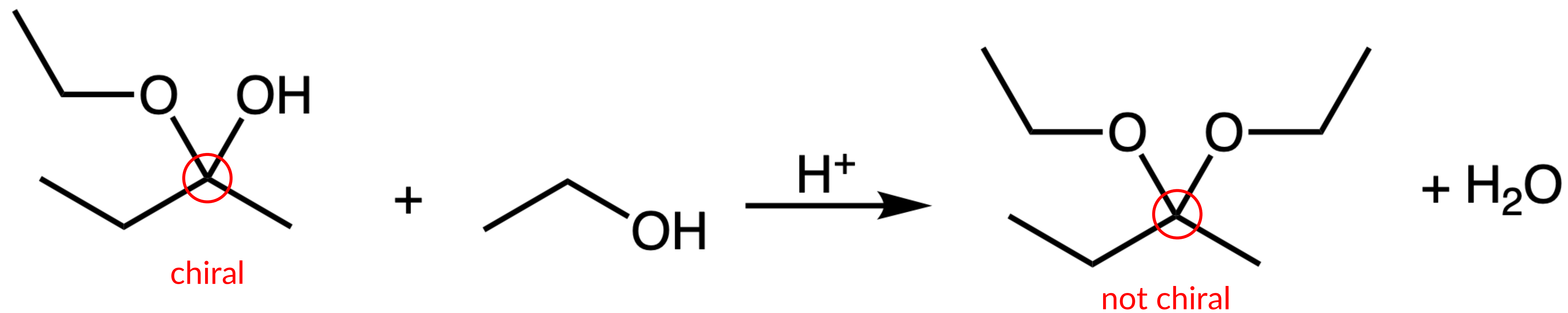
— *answer* —



# PRACTICE PROBLEM 1

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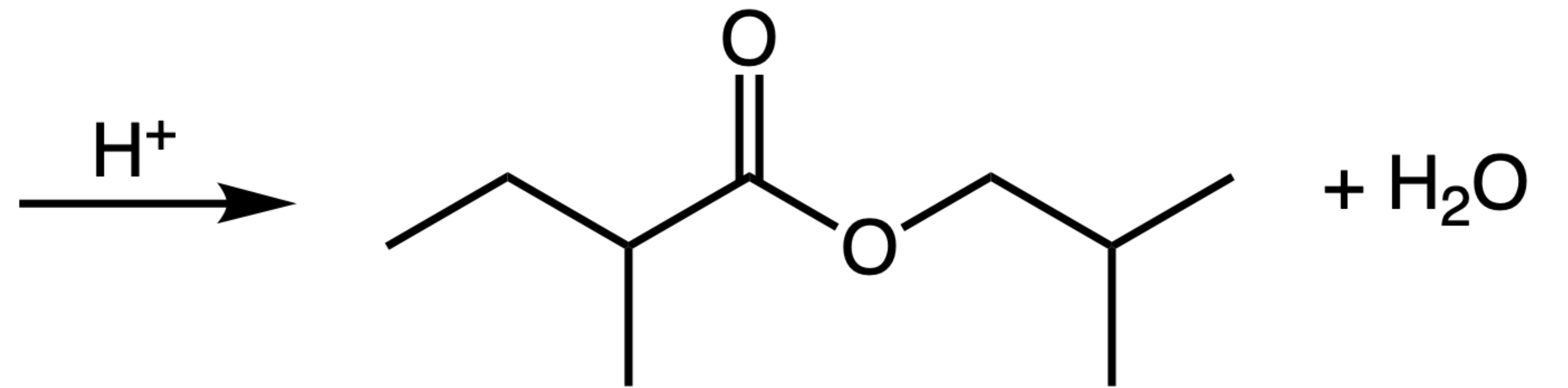
— *answer* —



## PRACTICE PROBLEM 2

What are the reactants that would yield the following product via condensation?

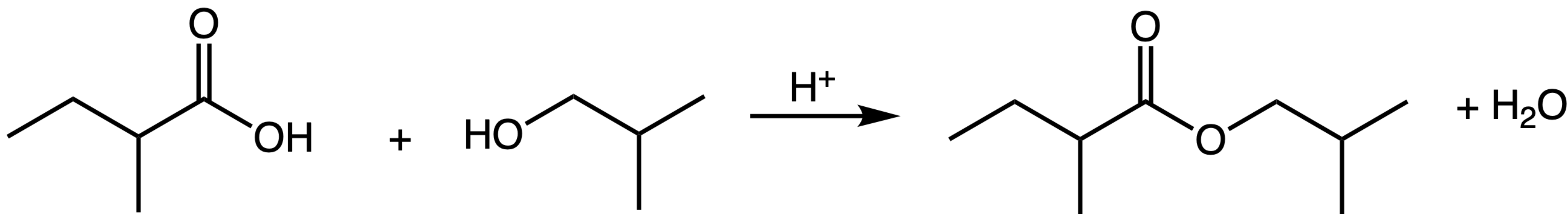
— *answer* —



## PRACTICE PROBLEM 2

What are the reactants that would yield the following product via condensation?

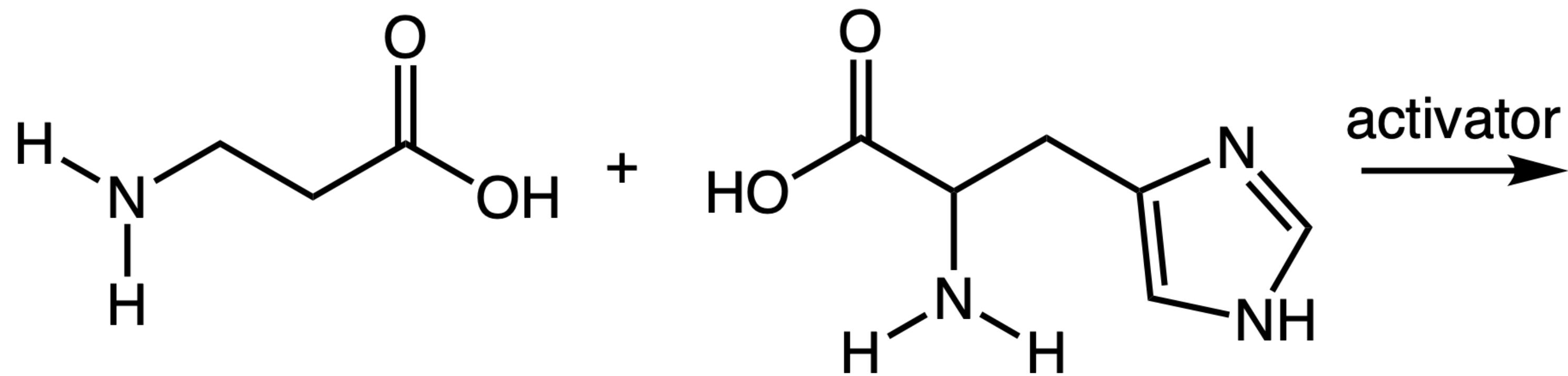
— *answer* —



## PRACTICE PROBLEM 3

Predict the product formed between the amino acids,  $\beta$ -alanine and histidine, which contains an amide bond.

— answer —



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— answer —

