



# ORGANIC CHEMISTRY

## NITROGEN COMPOUNDS: AMINES, IMINES, AND AMIDES

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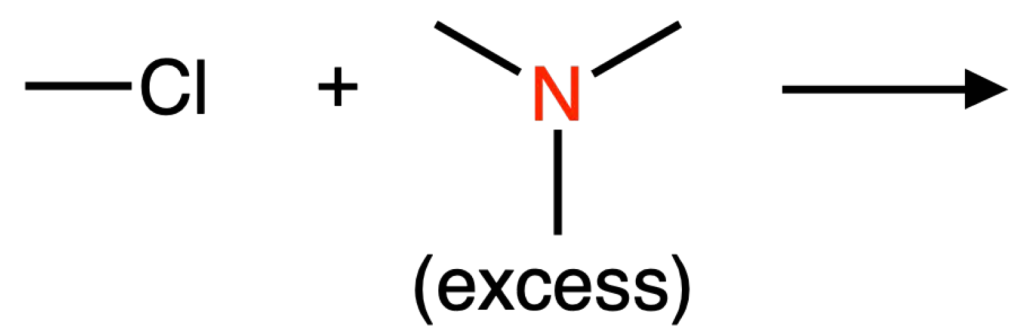
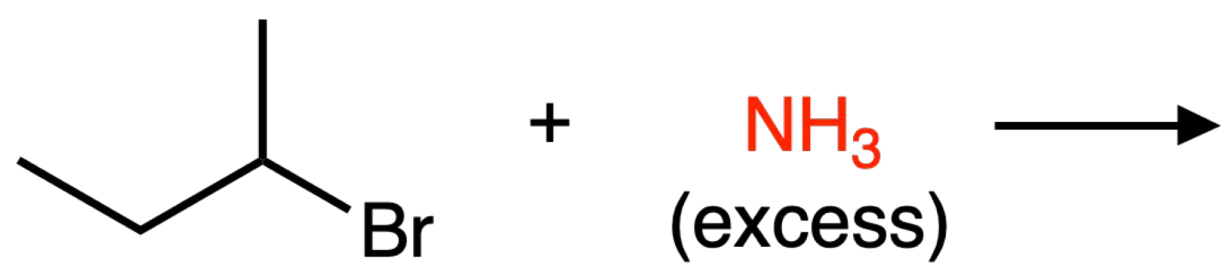
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# PRACTICE PROBLEM 1

Predict the amine(s) produced from the following nucleophilic substitution reactions.

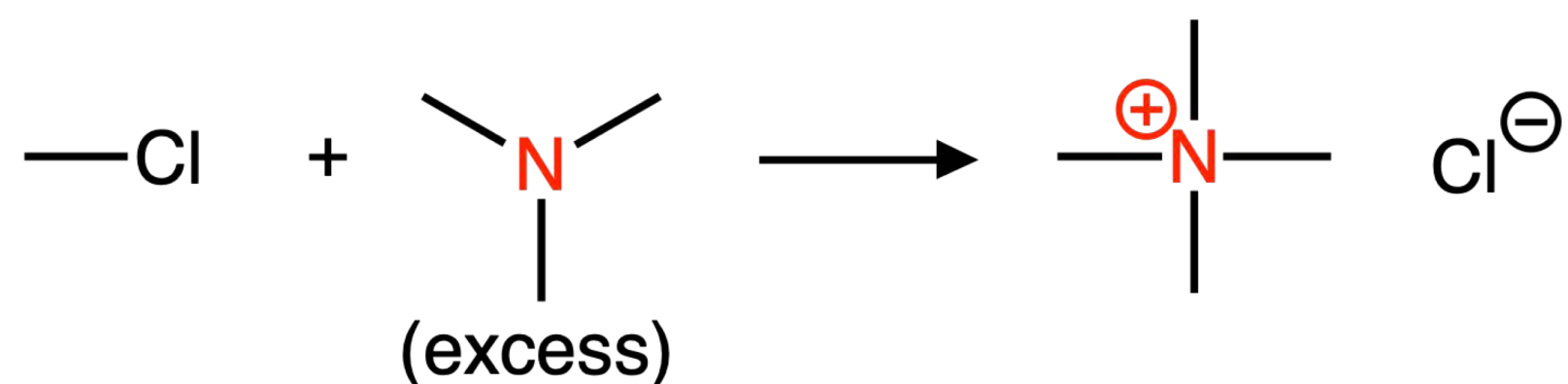
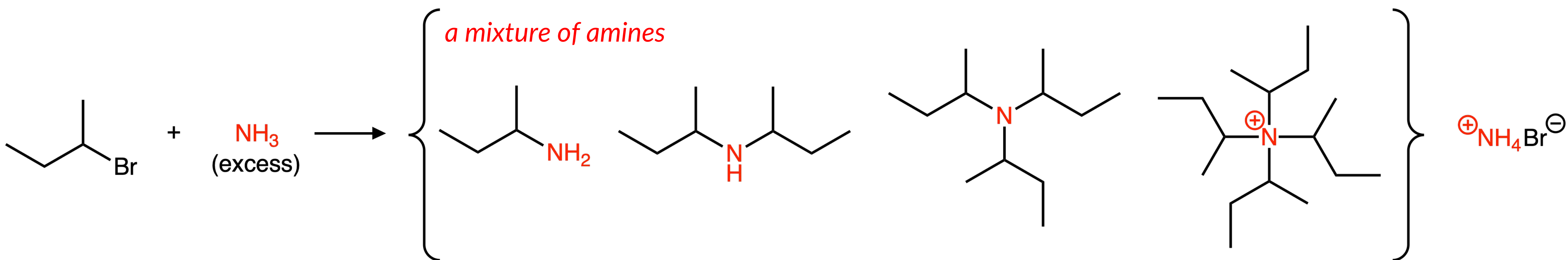
— *answer* —



# PRACTICE PROBLEM 1

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— answer —



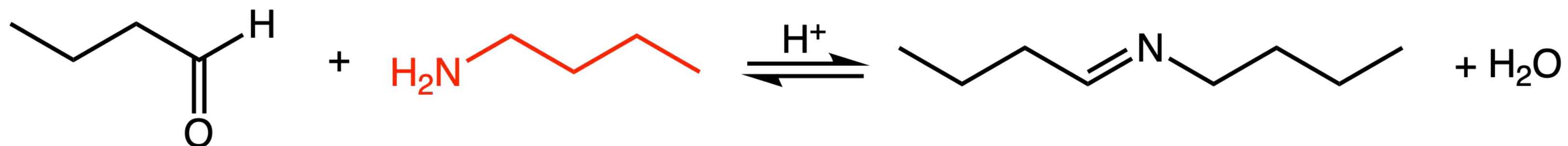
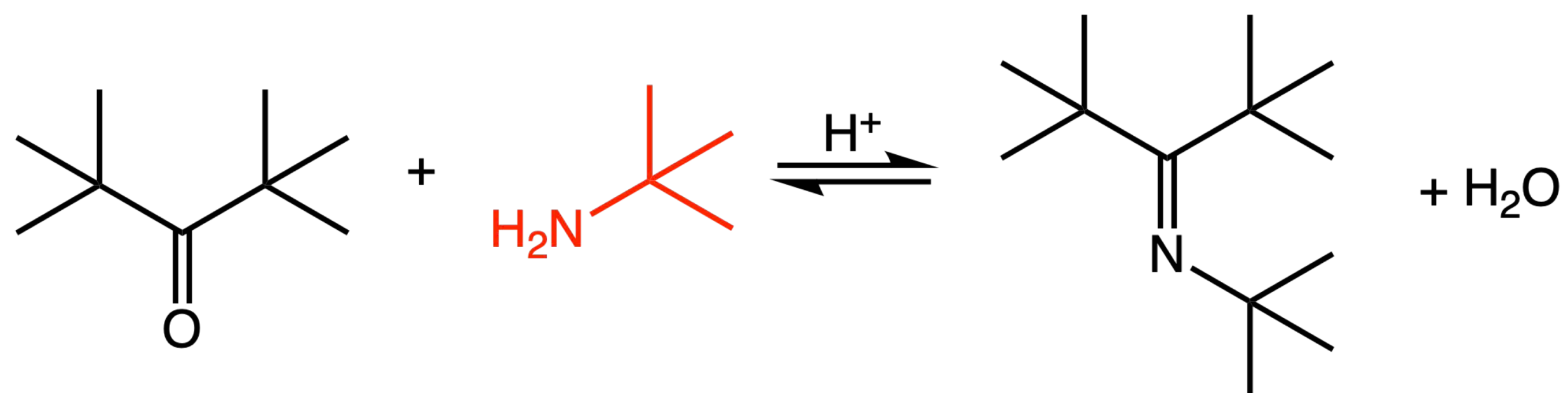
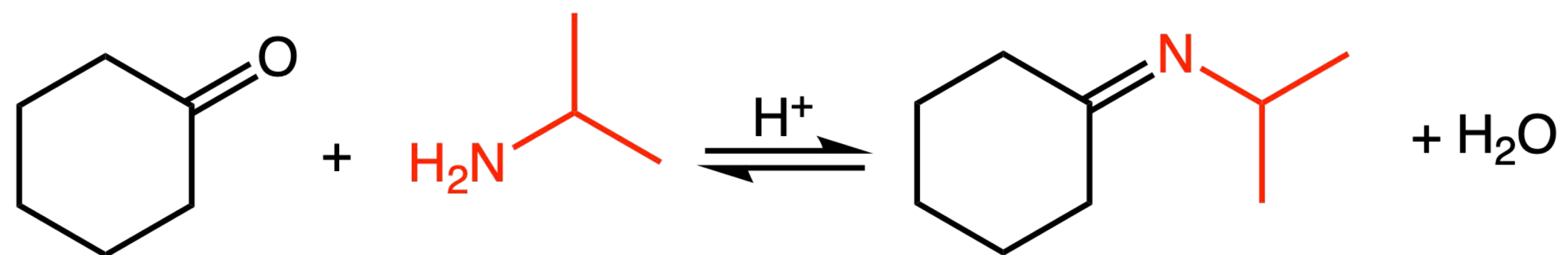
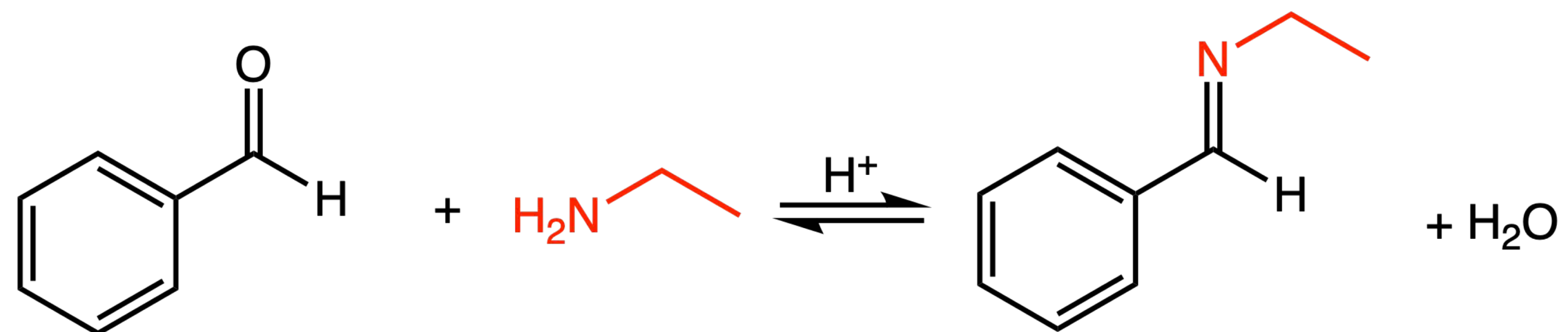
The first reaction shows the disadvantage of making amines using nucleophilic substitution because a mixture of substituted amines is produced.

The second reaction shows that this type of reaction could be useful for creating tetra-alkyl amines.

## PRACTICE PROBLEM 2

Provide the missing reactant(s) or product(s) for the following imine-synthesis reactions.

— answer —



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— answer —

